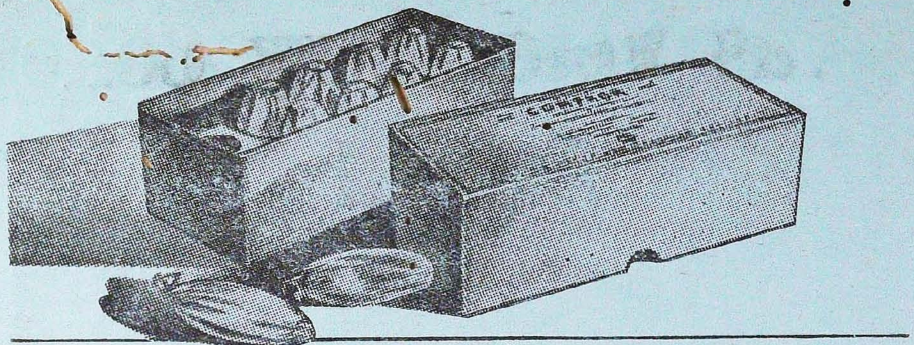
THE

Madras Veterinary College Annual

Golden Jubilee Commemoration Volume

Volume XIII

March 1955



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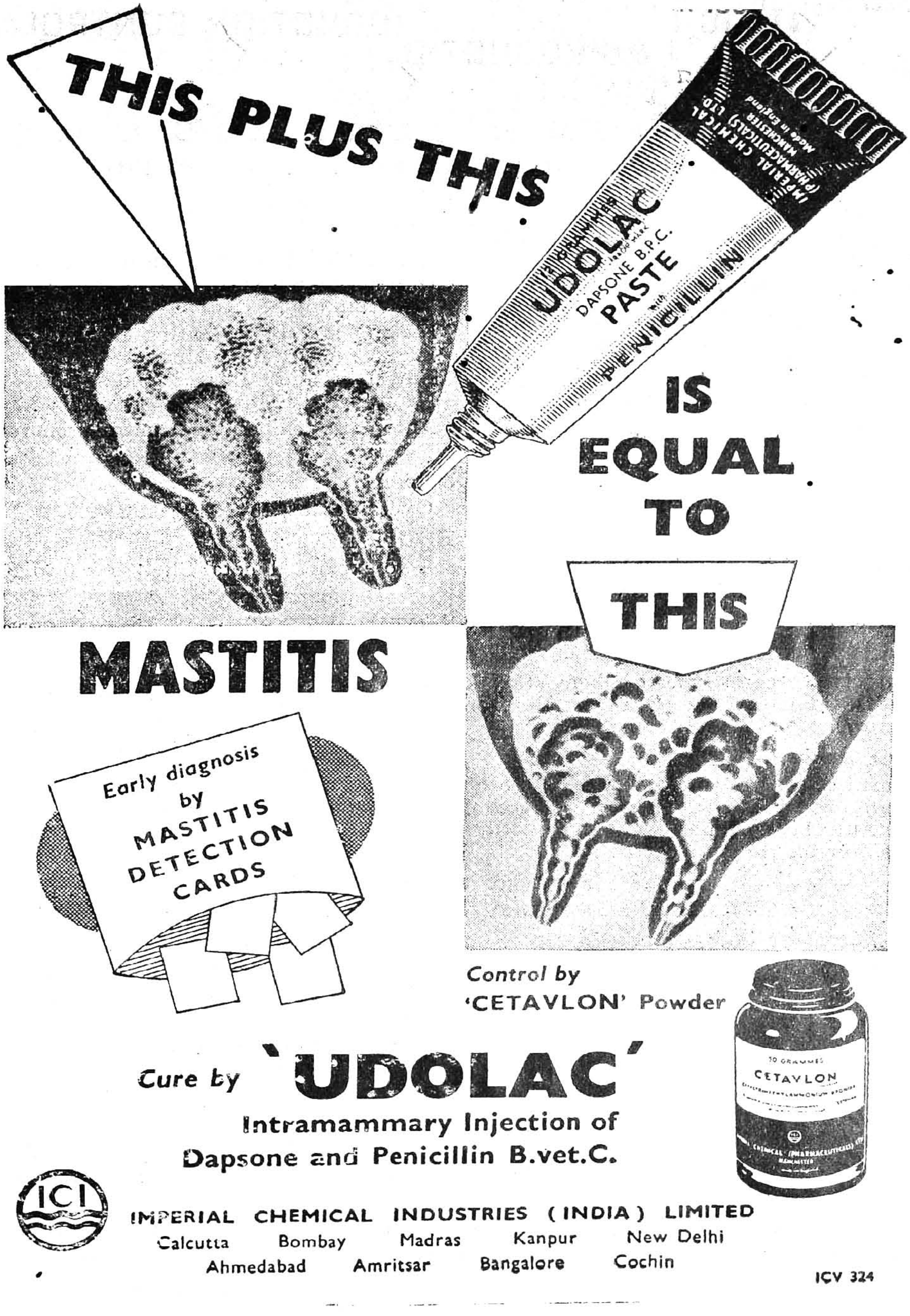

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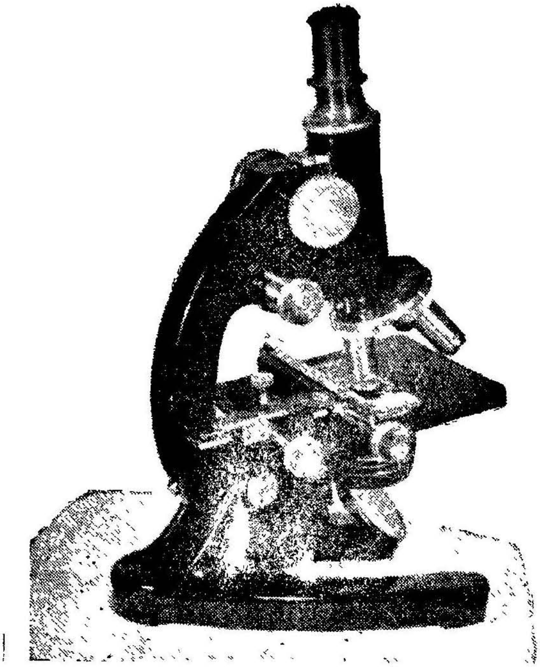

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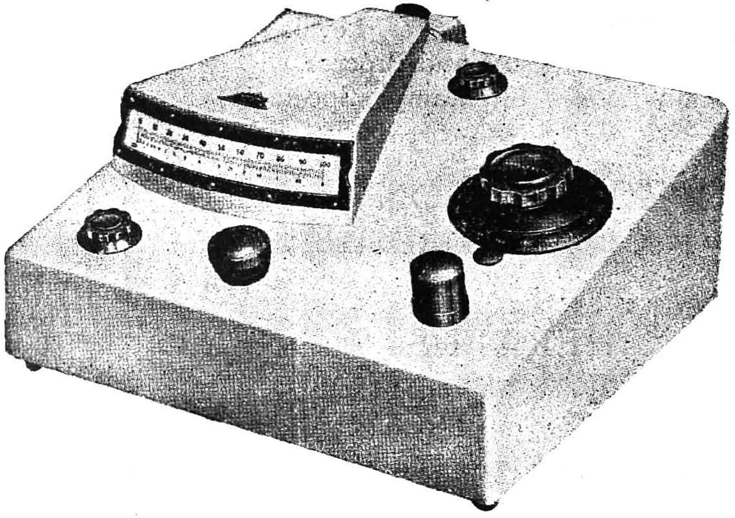

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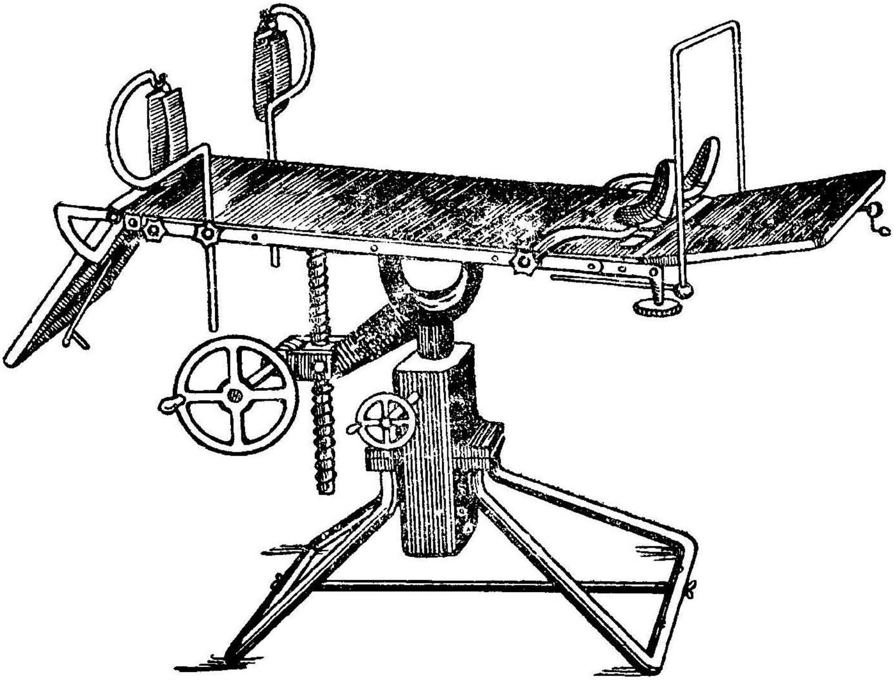

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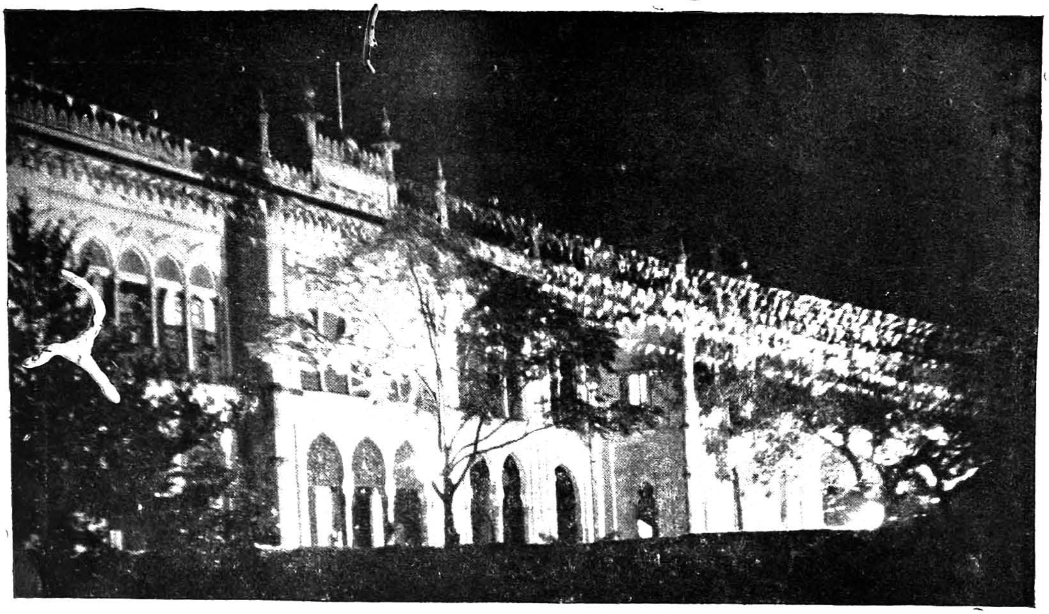
Addressing the gathering on the College day-Golden Jubilee Sports.



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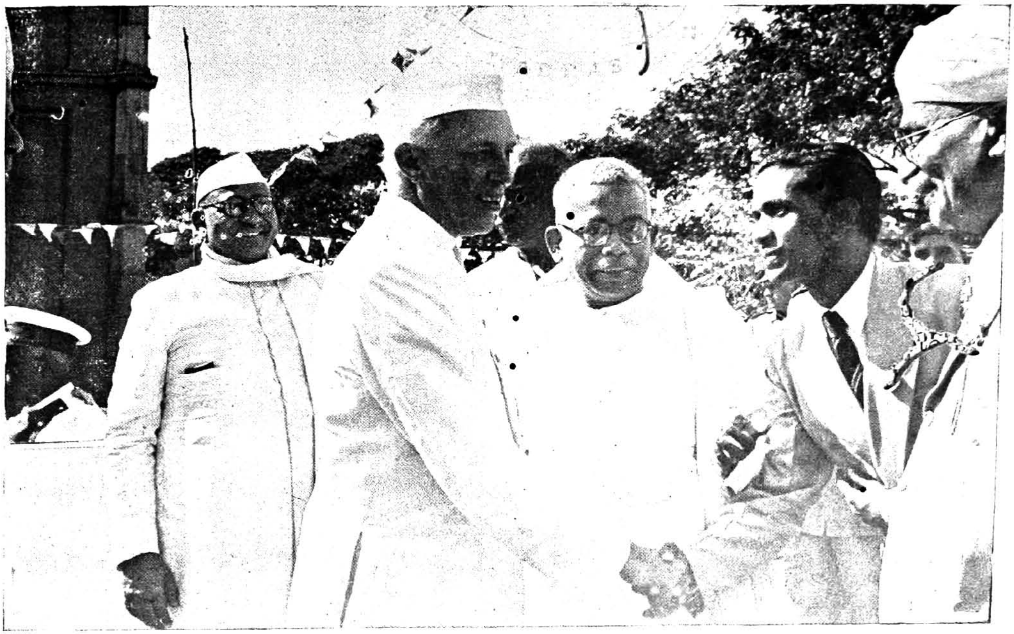
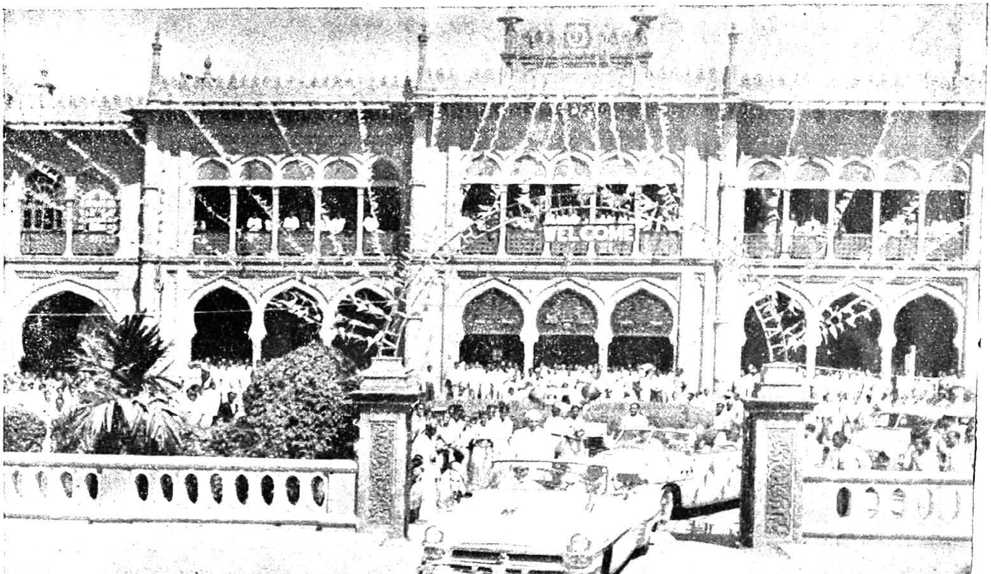
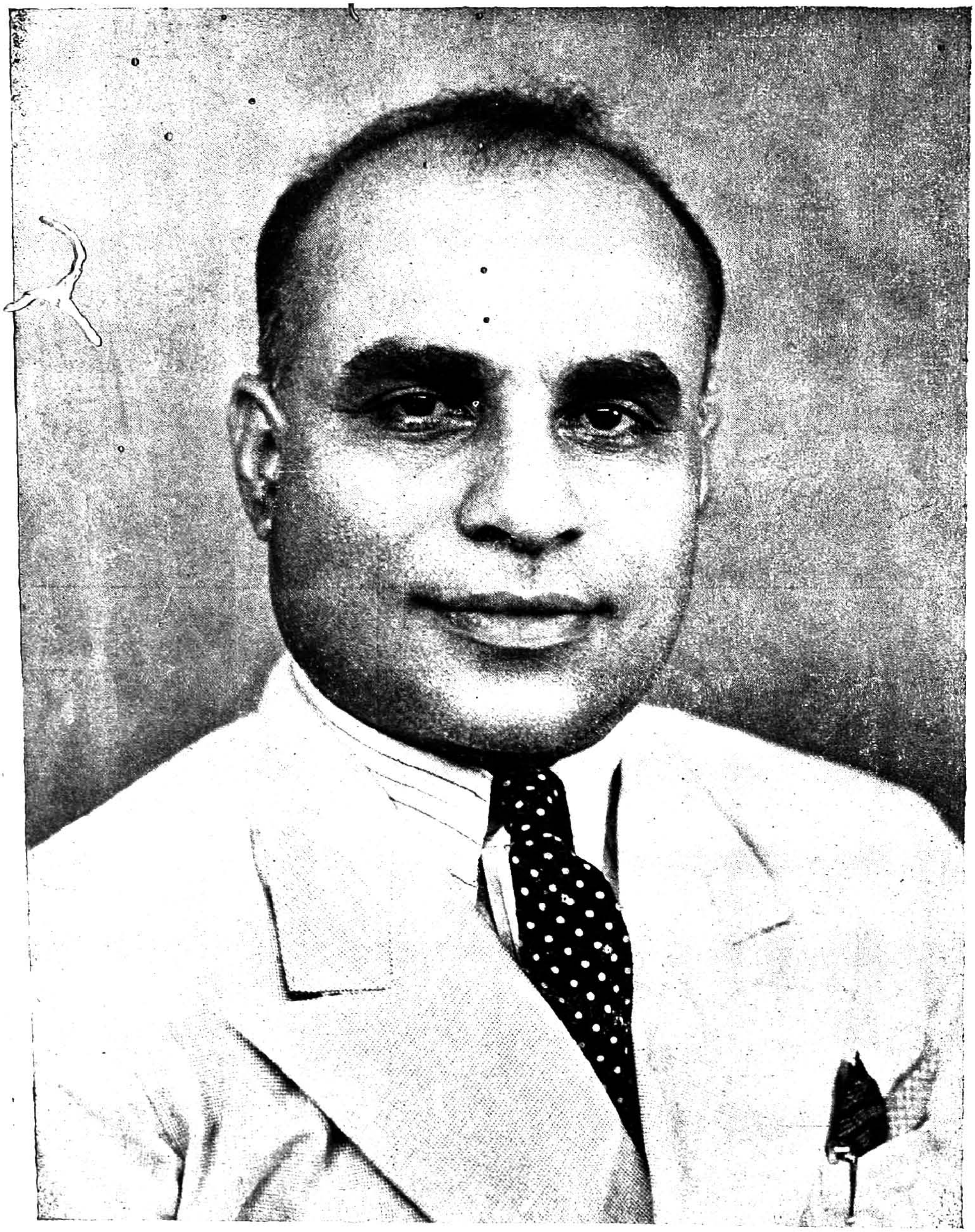


A. Balaguru, Student Chairman being introduced to the Prime Minister of India.



The Prime Minister leaving the College – *Sri. M. Santanam.*



Dr. Bertie A. D'SOUZA

Principal, Madras Veterinary College

Proceedings of the Madras Veterinary College Golden Jubilee Celebrations.

Monday, 17th January '55. Inauguration and opening of Scientific Exhibition by SHRI JAWAHARLAL NEHRU, *Prime Minister of India.*

THE eagerly awaited event—the Golden Jubilee of the Madras Veterinary College—was inaugurated on 17th January 1955 in an atmosphere of mirth, splendour and grandeur. In fact the preparations for the celebrations were afoot for sometime past and the Committee with Dr. V. R. Rajagopalan, Director of Animal Husbandry, Madras as its Chairman, spared no pains to make the function impressive and unique, especially in view of the inauguration by no less a personage than the Prime Minister of India, Sri Jawaharlal Nehru An enormous amount of work in this connection was shouldered by Dr. Bertie A. D'Souza, Principal of the College, the members and conveners of the various sub-committees, the other members of the staff and students of the College. A variety entertainment consisting of Indian dances by the Travancore Sisters, Sri Bhaskara Rai Chowdry and his troupe and instrumental music by Sri T. J Nathan, was held on 5th January 1955 at Annamalai Manram. It proved to be a singular success. Flags specially prepared for the Golden Jubilee were sold among the public of Madras and outside by the students throughout December 1954 and January 1955.

The inaugural function was conducted in a specially erected pandal which was lavishly decorated and beautifully illuminated. The total number of persons that attended this historic event number over 2000 which included some Ministers of the Central and State Cabinets, Judges of the High Court, Heads of Departments of the State Government, members of the Diplomatic Corps in the City, prominent citizens, Principals of the Colleges in the city, honorary visitors to the College Hospital, a number of prominent veterinarians from various States who specially came to attend this function and the All India Veterinary Conference, besides the staff and students of the College.

The guests took their seats sufficiently early and at 10-10 a.m. accompanied by His Excellency the Governor Shri Sri Prakasa and the Chief Minister Sri K. Kamaraj Nadar, Sri Jawaharlal Nehru arrived. He was received by Sri M. Bhaktavatsalam, Minister for Agriculture, Madras and introduced to Dr. A. L. Mudaliar, Vice-Chancellor of the University of Madras, Dr. V. R. Rajagopalan, Director of Animal Husbandry, Sri N. Murugesa Mudaliar, Deputy Secretary to the Agriculture Department, the Principal and heads of departments of the College, the Student Chairman, Sri A. Balaguru & Sri P. Sreenivasa Rao, President of the Madras Veterinary Association. The Prime Minister and party were then conducted to the dias and profusely garlanded.

The proceedings commenced with an invocation ably rendered by one of the college students. The Principal, *Sri Bertie A. D'Souza*, thereafter welcomed the Prime Minister and other guests in the following speech :

Mr. President, Revered Prime Minister, Ladies and Gentlemen,

It is with the utmost pleasure, that I, on behalf of the Madras Veterinary College, extend a cordial welcome to you, our honoured guests and to the vast concourse of distinguished guests who are present here this morning.

You will be glad to know, that the Madras Veterinary College was founded in October 1903, with a course of studies in Veterinary Science spread over a period of 3 years. The institution went through a series of subsequent developments to suit the different conditions and requirements of Animal Husbandry in the country. Though this College was the fourth to be opened in India, it was the first institution to be affiliated to a University in 1936 with the institution of the B. V. Sc Degree Course run concurrently with the then Diploma Course and Post-graduate Degrees of M. Sc. and Ph. D. in Animal Husbandry and Veterinary subjects.

The activities of the College extend to not merely the training of young men and women as Veterinary Graduates but also for advancement of knowledge through research. There is also the Post-graduate Refresher Course introduced as early as 1922 and there are courses of studies for Compounders, Veterinary and Livestock Inspectors and now the Stockmen Compounders. In order to help the hides and skin industry and the economic utilisation of fallen carcases like the one contemplated by the All India-Khadi and Village Industries Board, Bombay, a school of Flaying and carcase utilisation has also been started. From its very beginning, this College is devoting attention to diagnostic work, investigation and research besides teaching Researches done in this College have helped to save the livestock wealth of this State from the dissipating effects of animal epidemics. Numerous scientific papers, from time to time were published by the staff embodying the results of their research work. The work of production and issue of Rinderpest Serum and Virus in this State had its origin in this College. Pioneer work on Artificial Insemination of cattle was done in this College as early as 1940.

There are students drawn here, under the Government of India General Cultural Scholarship Schemes and the Technical Co-operation Scheme offering facilities to South and South-east Asian countries and you will be happy to learn, that this College has attracted students from countries such as Burma, Malaya. Ceylon, Phillippines, Thailand and Iraq and has earned a reputation as one of the outstanding Veterinary and Animal Husbandry Colleges in the East.

On the recommendation of the Indian Council of Agricultural Research and to observe a uniform curriculum of studies in the various Veterinary Colleges in India, the duration of the B. V. Sc. Course was changed to a period of four years and one term from the year 1946, and the curriculum was revised giving prominence to the subjects of Animal Husbandry. The third and fourth year classes have also training in the wards and clinics of the College. In addition, practical training in Animal Husbandry is given to the students in the livestock farms of the State for a total period of 6½ months during the summer vacations. Thus the B. V. Sc. Courses in Madras is in effect a five years' course.

At the commencement of the College, admission of students was limited to 20 which was raised in stages to 80 now This College has since its inception upto the end of this Jubilee year 1953, trained 1,172 qualified Veterinarians. Ours is the

first Veterinary College in India to admit women students to this professional course and already four women have taken their degrees of Bachelor of Veterinary Science of the Madras University and two of them are in the service of the Central Government. We have now 322 students on the rolls of which 3 are women students and a staff of 11 Professors, 5 Lecturers, one Research Officer and 23 Assistant Lecturers, 4 Demonstrators and an elaborate outfit of laboratories and wards. A Souvenir on the occasion of this Golden Jubilee presenting detailed information with regard to the history and the development of the various departments will be available to you.

With these, Sir, I am happy and proud to have the privilege today of placing this brief record of our College before you I hope and trust this College will continue to have the support of all citizens, who have interest of Animal Husbandry at heart, which is the mainstay of agriculture —an important occupation of the majority of the people in our country.

In conclusion Sir, I thank you and our revered Prime Minister and the other distinguished guests for gracing this occasion with your presence. We are grateful to our esteemed Prime Minister for consenting to honour this memorable occasion with his presence in spite of his multifarious national and international engagements.

This memory will inspire us for all time to come to strive and maintain the torch bright."

Simultaneously the Souvenir specially prepared for the occasion was distributed to important guests. This contains the full history, origin and development of the College since its inception in the year 1903.

Next, *Dr. V. R. Rajagopalan*, said, as an old boy of this College he could confidently say that the College had maintained steady progress and became better with each passing year. It has maintained a high standard of education and of research and its alumni had attained positions of responsibility all over the country. It was only proper that they should pay homage to the various members of the staff who were not with them now, but who by their perseverance and pioneering spirit had laid the foundation of the excellent traditions that were being maintained and developed now.

The Animal Husbandry Department of the State had grown with the State, he said. Outstanding achievements of the department were eradication of Rinderpest and the surpassing momentum of breeding operations in Key Villages. The College had trained a steady stream of qualified personnal for the department and had also played an intimate part in the day-to-day working of the department and could be depended upon to meet the great demand for technicians for the schemes under the Second Five Year Plan.

Adverting to the exhibition, he said, the exhibits displayed in various departments of the College showed the many aspects pertaining to the health, care, management and disease of livestock. He also referred to the 'Open Air Theatre' under the Youth Welfare Programme sponsored by the Government of India and Madras under the auspices of the University of Madras, the foundation stone for which was to be laid the next day by Sri A. P. Jain, Union Minister for Agriculture and Food. The donations and endowments received towards the institution of prizes, medals, etc, to commomerate the occasion, were then mentioned by Dr. Rajagopalan. They included Rs. 2000 from Sri N. Krishnamurthy Ayyar, Rs. 3000 from Sir

Dorabji Tata Trust, Rs. 2000 from Zamindar of Neikarapatti, Rs. 3000 from the Madras Race Club and Rs. 2800 from Dr. A. Sreenivasan.

Sri M. Bhaktavatsalam Minister for Agriculture, Madras State welcomed the Prime Minister. He said that in this part of the country this week was considered a festival week for cattle. It is appropriate that this College which had been the first to offer higher studies in Veterinary Science should be celebrating during this week its Golden Jubilee and that they considered themselves extremely lucky to be able to have the celebration inaugurated by the Prime Minister of India. There had been great demand from villages for veterinary aid and the Gevernment were trying to provide veterinary dispensaries and hospitals, but apart from the difficulty of finance, they had to face the difficulty of shortage of technical personnel. He said in spite of the numerical strength of cattle in this country they are poor in quality and that it was the aim of the Government to improve the breed. He said the work in this direction has met with success and that fine breeds of cattle were developed in this State and that today they had in the Government Livestock Farms the finest breed of the Sindhi variety. Other States inculding Kashmir wanted this State to supply this breed for their developmental work. Besides cattle, the Government is paying their attention to the improvement of the sheep, goats and horses.

They have a well-equipped laboratory and hospital and in the matter of research the College provided facilities for postgraduate courses of study. Finally he requested the Prime Minister to inaugurate the Jubilee celebarations and declare open the scientific exhibition.

The Prime Minister, Sri Jawaharlal Nehru spoke as follows:

I am happy to associate myself with the Golden jubilee Celebration of the "famous institution" in Madras which is a very important one. I realise fully the importance at any time—and more especially now—of such institutions. I should tell you frankly that I do not know anything about veterinary science. I know nothing about animals except that I like them and get on well with them. The only animals among which I do not get on well are lizards, chameleons and scorpions and some insects.

I am fond of animals, and therefore, I am interested in the science and treament relating to them and looking after them and improving them. Apart from the personal aspect, in any country, and more so in an agricultural country like ours, veterinary science is of the utmost importance, because these animals are the principal wealth of the country. This institution has got a good record. There are also other institutions of this kind, though not so ancient and perhaps not so distinguished as this. Nevertheless taking them all, they are remarkably few in India considering the importance of the problem and the vast extent of this country.

Training of Personnel

Some little time ago, in our Planning Commission, we were considering the question of trained personnel. Among the list of personnel that had to be trained in very large numbers were people who knew something about veterinary science--veterinary doctors as we call them. Just as in our country, for our normal health, the services of human beings, a vast number of doctors and the like are required, so also a vast number of veterinary surgeons or doctors are required to look after the agricultural wealth of this country.

We have big problems before us in connection with carrying on any kind of

development in the country. On the question of training people and producing trained personnel, some people imagine that lack of money is the chief handicap. Well, of course, money has its use. In our present economy money plays a relatively important function. But let us not praise money too much or attach too much importance to it. It is human beings who count and not money. It is the skilled worker that counts—skilled human beings and not money ultimately. In our Planning Commission, therefore, the thing that we come up against is not so much lack of money as lack of skilled personnel to do the job required efficiently. If you make any kind of calculation--it may be teachers, doctors, veterinary surgeons—having some relation to the population of India, you arrive at vast figures. You may arrive at a figure of five hundred thousand doctors. You want several hundred thousands of veterinary doctors in India. You may want a million teachers in India. When you look around and see our medical colleges you find they are colleges producing 100 or 150 doctors. You add up the total number and you come at a pitiful figure of some thousands. At that rate we require a hundred years of something like that before we get our full quota of trained doctors. That is not good enough obviously. Something has got to be done.

Lack of Adequate Doctors

The difficulty is that a doctor takes five, six or seven years to get trained----a long time. Are we going to wait for seven years before we can supply, if not the full quota, at least adequate number of doctors to be sent to various rural areas? What are we to do? We do not want to lower our standard to do that. We want to maintain high standards. So, there is a conflict all the time between the high standards we want to maintain and the time taken in the process of producing trained personnel. It is all very well to keep high standards. But there are many places in India where there is nobody at all of any standard to do the job. Are we going to wait till fully qualified personnel come—which means seven years from now—and then send them to particular area which is demanding a doctor? One thing I want to be quite clear about. There must be no lowering of standard--that is there. We do not want lowering of standards in India in any thing. We do not want be a second-rate country. We want to be a top-ranking country in science, technology or whatever it may be. The only other way is this—to make some stop-gap arrangement. The gap has to be filled and there is demand for it.

Shorter Course Suggested

Do not call them, for sometime, full-fledged in terms of the medical profession. Do not call them full-fledged doctors. Give them an year's training or two whatever it is. They may be sent to rural areas after that training to give some help and may be attached to a fully trained doctor. We have to find out some way to deal with this problem. We cannot wait year after year till we produce fully-trained doctors. I do not know, however, what the position is exactly in regard to these veterinary colleges and training institutions. But I presume it is probobly much worse and I am worried about it. We have come here to celebrate the jubilee of this old training institution and we are, no doubt, happy that the institution has lived up to fifty years. There is a feeling of complacency about it as to how well we are doing. How are we justified in complacency of that kind?

We have to consider this problem because it is of the utmost importance to deal with cattle. There are various animals which form a very important part of the wealth of this country. In India, cattle, especially the cow, is thought of highly. It is revered

and is almost worshipped. But there is no country to my knowledge where the cow is worse treated than in India. By and large, the people in India are gentle. They do not like to inflict suffering. But while they are gentle and they do not like to inflict suffering, they pass by when seeing suffering and do not interfere. They see a poor animal which had fallen down on the roadside and pass by without trying to lift it or to find out what is wrong with it. So, many of us in this country have developed what I call passive and inert virtue. It is about time the virtue is more positive and more aggressive.

It is not possible in this country to get good milk except in some areas in the Punjab. There is progressive deterioration in cattle in spite of veterinary colleges and doctors. Something is wrong. Now, we cannot tackle this question from sentimental or religious point of view. Some people start an agitation partly, no doubt, for sentimental reasons and partly for political reasons. But we cannot solve this question or any other question by mere sentiment. I agree we have to protect our cattle wealth and improve quality. But we are not going to do it by starting a large number of pinjrapoles all over the country. We must raise the standard of cattle. Therefore, I think that those people want to adopt, instead of a national and scientific attitude to this important problem, a soppy and sentimental attitude which do more harm than good.

So for as I am concerned, it leaves me very cold. We must find a constructive approach to the problem. The milk colonies in Bombay and West Bengal are instances of constructive approach to the problem. People suggest various approaches to the problem which, if acted upon, would probably result in various difficulties, first of them being deterioration of the cattle wealth in India. The quality will go down, though the numbers may go up. All the bad and diseased cattle will increase and the good ones will die. What is more, if this kind of soppy approach is adopted, human beings will die on account of diseased animals. I want cattle wealth to develop. Nevertheless, I attach more importance to the human beings in this country. The human being is going to have the first place and other things will come next.

I hope that the Madras Veterinary College, which is celebrating its Golden Jubilee, would expand its work."

Dr. K. N. Govindan Nair, Professor of Physiology read the messages received on the occasion. (separately published).

Shri Sri Prakasa, Governor of Madras who presided over the function thanked the Prime Minister for having inaugurated the function. He said, for them of the north, it was necessary to come and stay some time in this State to love and admire and understand it. He confessed that he had been ignorant of the great work done here in many directions. The sense of social service of the people here was very great as evidenced by the numerous institutions where good work was being done for women, children and animals. The great characteristic of Madras, Shri Sri Prakasa said, was that the institutions were not only born here, but lived and flourished. He had himself occasions to assist in the Silver and Diamond Jubilee celebrations of many institutions, and so far as the Medical and Engineering Colleges were concerned, they had celebrated their bi-centenaries and even tricentenaries He had no doubt that this College as many other institutions in this State would flourish and do great work. The description of the Prime Minister that they are gentle people who did not want to inflict any suffering was true of Madras.

However, he regretted in many places in this land, there was a great deal of hypocrisy which went in the name of kindness. The Governor further congratulated the College on the good work in the past done and wished it every success in the future as well.

The Artistes, the famous Travancore Sisters, Sri Bhaskara Rai Chowdry and Sri T. J. Nathan who readily consented to stage a performance in aid of the Jubilee funds under the auspices of the Association were presented special scrolls by the Governor.

This over, *Dr. Dharmarajan* Professor of Genetics, proposed a Vote of Thanks in a neat little speech. This was followed by the playing of the national anthem by the Corporation Band which was in attendance.

The Prime Minister and party were taken round the exhibition. After spending some time seeing the exhibits in certain departments of the College and signing the College Visitor's Book, presented by the Principal, Sri Jawaharlal Nehru left the College amidst thunderous applause and cries of 'Jai Hind'.

That night a specially arranged buffet dinner was held in the jubilee pandal. For this besides the staff and students many veterinarians who came to the city for the occasion and for the All India Veterinary Conference which was held in conjunction in the Jubilee, attended. After the dinner there was a variety entertainment organised by the students of the College. The items included dance by Sri Bhaskara Roy Chowdry, mono-acting by the talented Shakespereaan actor Sri. N. Sundaram, B.A. and melodious music by Sri Kamaleson. The entertainments came to an end by 11-30 p m. As a special feature the entire college was flood-lit on that night and the two succeeding nights. The main building revealed its imposing appearance and the architectural beauty was high lighted.

Tuesday, 18th January, '55 The College Day and Golden Jubilee Sports; 12th All India Veterinary Conference and the Madras State Veterinary Conference.

On the second day of the jubilee celebrations in the morning, the combined sessions of the XIIth. All India Veterinary Conference and XIth the State Veterinary Conference were inaugurated by Dr. Panjab Rao Deshmukh, Minister for Agriculture, Government of India. Dr. S. Datta Director of Veterinary Services and Animal Husbandry, West Bengal presided and Dr. Bertie A. D'Souza, Principal, Madras Veterinary College was the Chairman of the Reception Committee. For this conference delegates from Andhra, Bengal, Bombay, Hyderabad, Madras, West Bengal East Punjab, Vindhya Pradesh, Madhya Pradesh and Travancore—Cochin attended. At the inauguration ceremony the portrait of Sri Rao Bahadur R. Swaminathan was unveiled by Sir P. T. Rajan, the senior steward of the Madras Race Club.

For the College Day and Sports, Sir A. Lakshmanaswamy Mudaliar, Vice-Chancellor of the University of Madras who is an international figure in the field of education and Chairman, UNESCO, presided Also on this occasion, Sri Ajit Prasad Jain, Union Minister for Food and Agriculture was specially invited to lay the foundation stone for the Open Air Theatre under the Youth Welfare Programme sponsored jointly by the Government of India and Madras under the auspices of the University of Madras.

The sports started at 2 p m. and the various items were gone through very smoothly and quickly The competition was very keen and till the end nobody knew who the individual champion would

be. Finally after a good deal of struggle, Sri Chinnayya of 1 Year won the individual Championship. The Third Year won the Athletic Championship. The highlight of the sport-meet was however the Tug-of-war between the staff and students in which the latter won after some struggle. The old boys race proved a keen struggle between the former Sports Secretary Dr. I. D. Mantramurti and the present Secretary Dr. F. D. Wilson. The result was evident, the old stager always wins! The musical chair for staff provided great amusement and was won by Dr. F. D. Wilson through sheer 'weight'.

After sports and tea, the Principal, *Sri Bertie A. D'Souza*, welcomed the gathering and read the College report.

He said, "we are honoured this evening by the presence of several distinguished guests and I am happy indeed to extend to all a hearty welcome. It is a proud privilege for me to welcome Sir A. L. Mudaliar, Vice-Chancellor of the University of Madras, an international personage in the field of education and Chairman, UNESCO, to preside over this College Golden Jubilee function and to distribute the prizes." He recalled the many events in the recent history of the college with which the distinguished guest was associated. He then briefly reviewed the history and development of the college since its inception in the year 1903. The various changes undergone in the curricula of studies, duration of the course, etc. were mentioned. A great milestone in the history of Veterinary education in this State, nay in India, was the affiliation of this College to the University in 1936. Though this was the fourth college to be started in India, it was the first college to be affiliated to a University and to institute the Bachelor of Veterinary Science In all, during the past fifty years as many as 1172 graduates passed out of this College. It was contended that the present course as taught at this College was a well-balanced one covering all subjects in Veterinary Science and Animal Husbandry. The College by its standard of training and research work had earned a reputation as one of the outstanding colleges in the East and has attracted students from Thailand, Iraq, Philippines, Burma, Malaya and Ceylon. Among these are foreign students deputed by the Government of India under Cultural Scholarship Scheme and Technical Co-operation Scheme offering facilities for south and south-east Asian countries (Colombo Plan).

He said though to start with, the college had one part-time Principal, one Asst. Principal and one junior Lecturer, the present staff included 11 Professors inclusive of the Principal, 5 Lecturers, 21 Asst. Lecturers and 4 Demonstrators. The College is thus improving and expanding in the matter of staff, equipment and facilities year by year with the advance in Science. There were at present facilities for research and post-graduate work in almost all the departments in the college. However there was scope for further improvement in all directions and need for greater accommodation.

In conclusion the Principal requested Sri A. P. Jain to lay the foundation stone of the Open Air Theatre which was to be constructed at a cost of Rs. 10,000. The major part of the cost of this construction was to be borne by the Central Govermunt. He further requested Sir A. L. Mudaliar to distribute the prizes and to deliver the address.

The foundation stone for the Open Air Theatre was then laid by Sri A. P. Jain. After this he addressed the gathering. He said he was glad to be associated with

Golden Jubilee celebrations of this great institution and visualised great future for the college and its graduates. Dr. A. L. Mudaliar, after distributing the prizes to the winners in the various items of sports, spoke in praise of the college. He complimented the college on having made substantial progress in the field of education and research. He expressed great satisfaction at the fulfilment of the expectation of the first University Inspection Commission (of which he was a member) which recommended the institution of the Degree course in Veterinary Science.

He said in a recent Syndicate meeting of the University it was decided to throw open to the graduates in Veterinary Science, the highest degree awarded by the University, namely the D. Sc. in Veterinary Science.

With a vote of thanks by Sri F. D. Wilson the function terminated.

Wednesday, 19th January 1955. The Jubilee Cattle and Poultry Show.

A committee consisting of Sris M. N. Menon, F. D. Wilson, V. S. Alwar and V. Krishnamurthy was constituted with Sri. M. N. Menon as Convener, to organise the cattle and poultry show in connection with the Golden Jubilee celebrations. From among the students, Sris G. Mukundan, V. R. Kamal, Md. G. H. Sayeed and Sankaranarayanan were coopted into the committee.

The show attracted 126 entries in the cattle variety and 96 in the poultry class. Silver cups to a value of Rs. 672-8-0 not including 10 cups transferred from the Madras Veterinary Association valued at Rs. 100-150 were distributed to the winning entries.

The Judges for the poultry entries were Sri F. D. Wilson, Capt. Bennet, Mrs. Fatima Aktar, Miss Sivaraj and Mr. A. R. Widrose. The judges for cattle entries were Sris D. Pattabhiraman, Veeramani Iyer, G. O. Khan, M. Dharmarajan, Rama Rao, Thiruvenkataswamy Pillai and Ramamirtham.

The show was inaugurated at 2-30 p.m. by Sri O. V. Alagesan, Union Deputy Minister for Railway. Sri V. R. Rajagopalan, Director of Animal Husbandry, Madras presided and Mrs. T. A. Vergheese distributed the prizes and certificates. Sri V. K. Ramaswamy Mudaliar spoke on the occasion and Sri D. Pattabhiraman, Deputy Director of Animal Husbandry, proposed the vote of Thanks.

The Golden Jubilee Exhibition

After the inauguration of the Golden Jubilee celebrations Pandit Nehru declared open the Veterinary Scientific Exhibition by pressing a button which simultaneously lit up an illuminated writing "Jubilee Exhibition" and drew aside a curtain at the entrance to the Exhibition.

The different branches of study which comprise modern Veterinary Education were explained in detail by the exhibits displayed at the different departments.

The Pharmacology Department had on show exhibits explaining the actions, uses and doses of various drugs-allopathic and indigenous. At the clinical departments, the various surgical and medical diseases, their diagnosis and treatment were made clear to the public by means of specimens, photographs and charts. Recent advances in diagnostic techniques such as surgical appliances, X-ray and Ultra-violet light plants in animal practice, anaesthetic apparatus and surgical instruments were on show. The Anatomy department put on show exquisite dissected specimens of great scientific importance and these were

presented to the best advantage by skilled fluorescent lighting. Other exhibits of the department showed the stage by stage development of the Vertebrate embryo, somer are fœtuses such as those of the elephant, bison and cheeta and some rare monstrosities. The actual stained sections under the microscope.explanatory diagrams and models of some of the organs of special senses such as the eye, the ear and the taste buds on the tongue enabled the visitors to have an idea of the structure of these organs. There were on view also preserved animal bodies with large windows cut out on the body wall to show the position of organs in their natural places.

The Hygiene department had on view artistically prepared and made to scale models of the different types of hygienic animal houses, farm houses, incubators, brooder boxes, etc. Various apparatus and appliance used for water and air analysis were put on show.

The Nutrition department by means of diagrams, photographs and charts explained the importance of a balanced diet and the technique of food analysis.

A specially raised plot presented the various nutritive fodders, grasses which attracted the public. The depatment of Physiology by its exhibits demonstrated some fundamental aspects of physiology. Apparatus for the coronary perfusion of the Mammalian Heart, the apparatus for Starling's Heart-lung preparation, were kept in actual constant working condition with live tissues of the animals. It deserves special mention that these complicated apparatuses were designed and actually built by the staff of the department themselves. Other exhibits of this department showed the blood circulating in the capillaries, the working muscle of the frog, the isolated beating heart of the frog, recording of the peristaltic movements of the dog in actual working condition, the recording of blood pressure, etc.

The Parasitology, Pathology and Bacteriology departments put on show exhibits explaining by various specimens. illustrative diagrams, charts and models the diagnosis, treatment and prevention of the parasitic and contagious diseases of livestock. The technique of the preparation and use of various biological preparations were also explained.

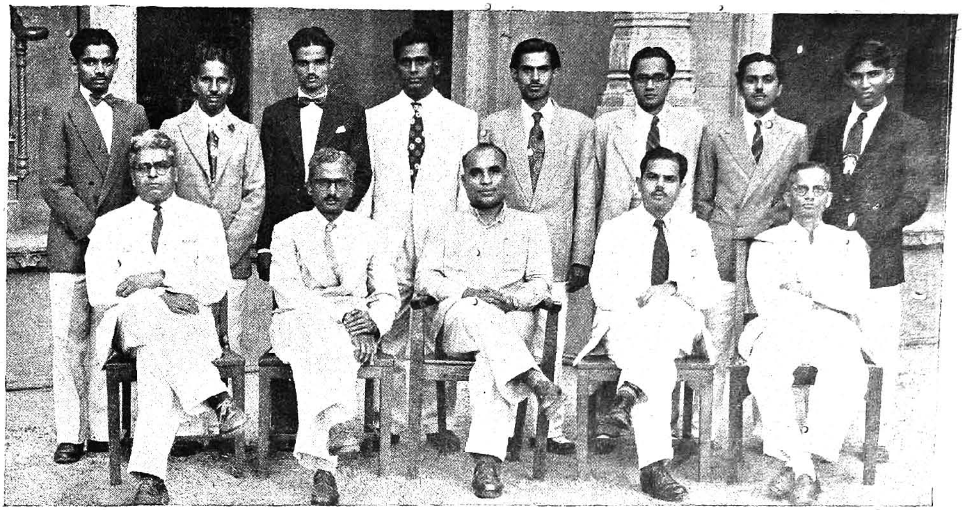
The Biology department put up on show exhibits explaining the " Parental behaviour of Mammals. At the Chemistry department, exhibits explained the technique of the analysis of calculi and detection of various poisons.

Dairy Science department had on show various models of appliances and industrial plants used in Dairy industry which depicted the production, handling and distribution of milk. In the Genetics Department, exhibits of various breeds of cattle, of apparatus used in artificial insemination, of charts and maps relating to Key Village Centres, Community Projects, etc, illustrative charts depicting modes of inheritance in humans and animals and numerous microscopical preparations relating to breeding were on show.

In addition, the various breeds of livestock reared in the State and were now yielding 30 to 35 lbs of milk per day and different breeds of sheep evolved in the breeding farms of the Department were on exhibit. Models of livestock farms in the state were also exhibited. Other exhibits explained the importance of scientific flaying and economic carcass utilisation.

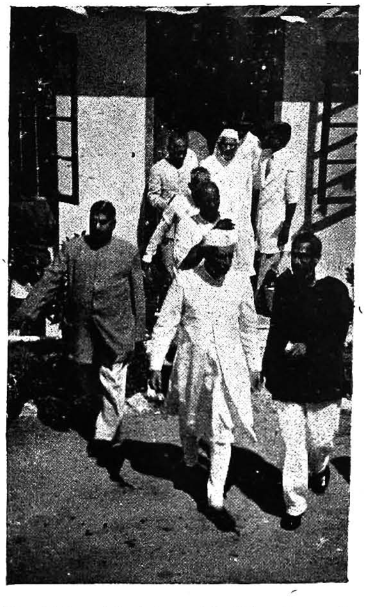
The Exhibition was greatly appreciated by the public who have stated that it was very educative and interesting. During the four days it was kept open, more than 5,000 people visited it in spite of other engagements in the City at this time such as the All India Congress Sessions at Avadi and the All India Khadi and Swedesi Congress Exhibition at Teynampet Ground.

MADRAS VETERINARY COLLEGE
GOLDEN JUBILEE
Exhibition and Propaganda Committee.

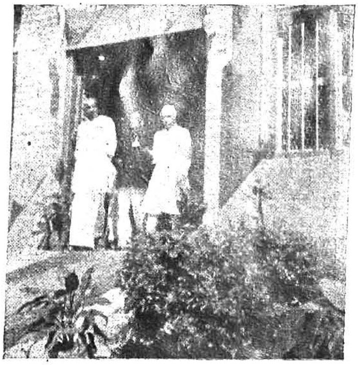


Sitting :— Dr. V. Mahadevan, Prof. K, N. Govindan Nair *(Convener)* Prof. Bertie A. D'souza, *(President)* Prof. K. P. Chandrasekharan Nair. Prof. G. Ramanujachari,

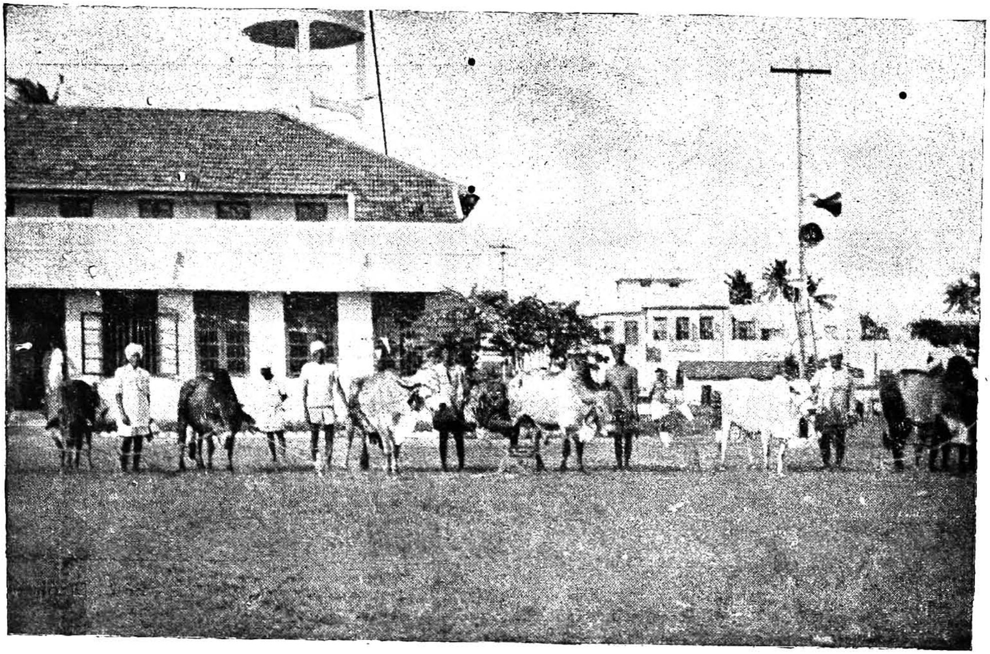
Standing :— Sri. C. K. Surendra Varma. Sri. R. K. Kaimal, Sri. M.R.C. Panickar, Sri. M Kesavan, Sri. R. Ganesh, Sri. R. S. Raffiuddin, Sri H. C. Samanna, Sri. P. A. Balu.



The Prime Minister with Director and others coming out of the Physiology Department.

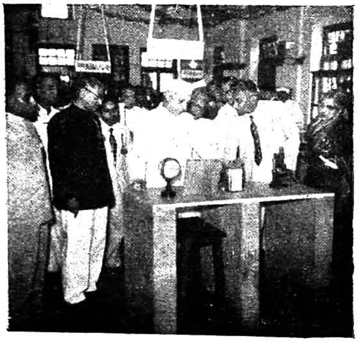


Chief Minister, Madras, Director Animal Husbandry and Sri Jawaharlal Nehru in front of Anatomy Department.



Cattle show— Golden Jubilee Celebration

The Prime Minister evincing interest in the bulls.

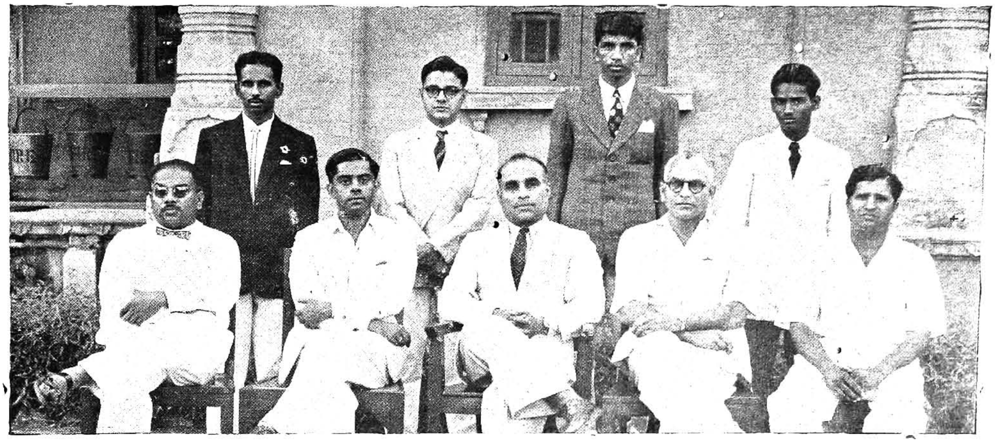


Professor of Anatomy explaining to the Prime Minister (on the exhibits)

MADRAS VETERINARY COLLEGE

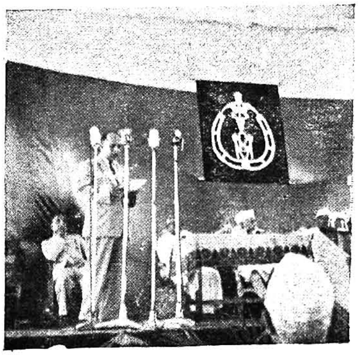
GOLDEN JUBILEE

LIVESTOCK—SHOW COMMITTEE

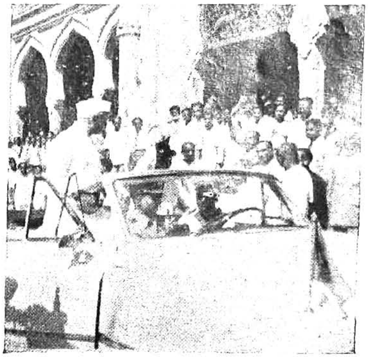


Sitting :— Sri. F. D. Wilson, Prof. M. Narayana Menon, (*Convener*) Prof. Bertie A. D'souza, (*Principal*) Sri. R. Krishnamurthi, Sri. V. S. Alwar.

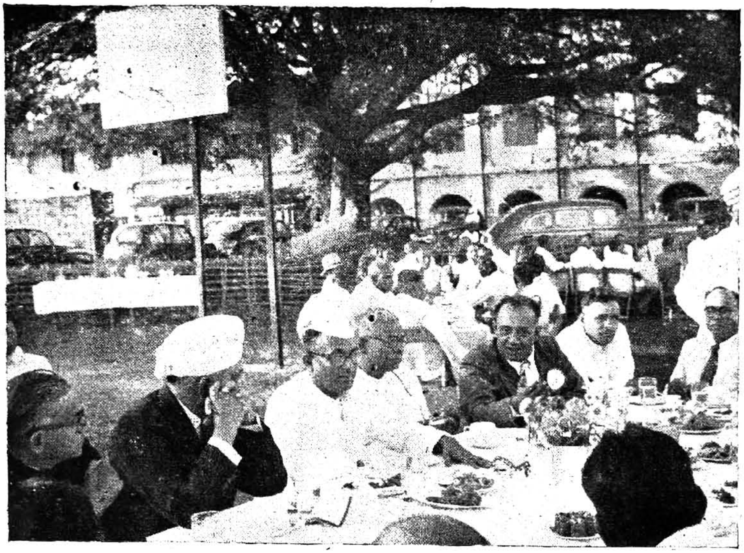
Standing :— Sri. R. K. Kaiml, Sri. R. Sankara Raman, Sri. G. Mukundan, Sri. M. G. Hussain Sayeed.



Dr. M. Dharmarajan thanking the guests.



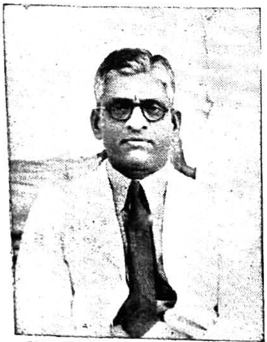
The Prime Minister bidding Good-bye.



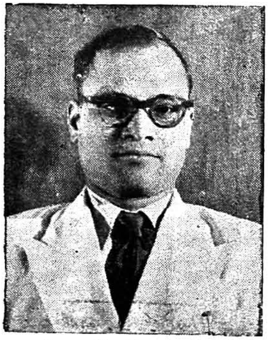
The Golden Jubilee College day
Chief guests at the table
—Jothi Ranganathan,
B.Sc., 1st year B.V.Sc.

Dr. B. Narasinga Rai
Lecturer in Bacteriology

Dr. A. R Vedanayakam
Lecturer in Animal Husbandry



Dr. S. N. Vaidyanathan
Lecturer in charge of Stockmen Course



Sri. B. Venugopal
Lecturer in Chemistry

Messages of Congratulations and Good Wishes

RASHTRAPATI BHAVAN,
NEW DELHI.
December 31, 1954.

On the occasion of its golden jubilee, I send my greetings and best wishes to the Madras Veterinary College. This is one of the premier institutions of its kind in India and it was the first College to offer instruction leading to the degree course in veterinary science. I am glad to know that the revised courses of study offered by your College, are in keeping with modern trends and instil practical bias into the students by compulsory training in veterinary medicine and animal husbandry. Your College has also the distinction of being the first to offer facilities for Post-graduate studies. Let me hope that deriving inspiration from past tradition and record of service, it will continue to forge ahead.

RAJENDRA PRASAD,
President, India.

NEW DELHI
9 January, 1955.

I am pleased to know that the Madras Veterinary College would be celebrating its Golden Jubilee this month.

In a preeminently agricultural country like ours where we have to depend so much on animals the importance of Veterinary Institutions cannot be overemphasised. My best wishes for the success of your celebrations.

S. RADHAKRISHNAN,
VICE-PRESIDENT,
INDAI.

RAJ BHAVAN
GUINDY, MADRAS-22,
December 20, 1954.

On the glad occasion of the Golden Jubilee celebration of the Madras Veterinary College, I send my warm greetings and felicitations to the staff and students of the College.

tradition by training students not only from all over India but also from other countries such as Burma, Ceylon, Thailand, Indonesia, Malaya, Iraq and the Phillipines. It has also developed co-ordinated research in Veterinary Science and Animal Husbandry practice and clinical matters, which has helped in taking effective measures to combat contagious and other diseases in animals and poultry. The researches in animal diseases such as Nasal Granuloma, Lymphanigitis etc., in cattle and contagious Pleura-pneumonia in goats, the extensive anatomical studies on ox and fowl and the survey of the cercarial fauna of the State undertaken by the College, have much contributed to the advancement of Veterinary knowledge.

I wish the College which is one of the finest of its kind in the East continued progress.

M. BHAKTAVATSALAM,
MINISTER FOR AGRICULTURE.

FORT ST. GEORGE
MADRAS
13th January 1955

I am glad to learn that the Madras Veterinary College will be celebrating its Golden Jubilee and the Prime Minister is inaugurating the celebrations. I know the useful part which the College is playing in training the necessary personnel for the Veterinary Services. I am sure this institution will continue to do its best for the country in the future also. I wish the function every success.

C. SUBRAMANIAM,
MINISTER FOR FINANCE & EDUCATION.

FORT ST. GEORGE
MADRAS.
7th January, 1955.

The Madras Veterinary College has taken the lead in regard to veterinary education in this country. The institution of the degree course in 1936, the facilities afforded for post-graduate work, and the original research work done at the college are some of the distinctive features. In this area of planned development with special emphasis on increase of food production, this college is bound to play a significant part in contributing to the economy of the nation by the improvement of livestock. The inauguration of the Golden Jubilee celebration by our popular Prime Minister will ever be remembered as a red letter day in the annals of this institution. Let me offer to the staff and students of the college, both past and present, my hearty good wishes for greater success in their work and career in future.

A. B. Shetty, M.L.A.
MINISTER FOR HEALTH.

FORT ST. GEORGE,
MADRAS.
7th January 1955.

I am pleased to learn that the Madras Veterinary College is completing 50 years of very useful work in this State as seen from her record of achievements on the side of education and research. Ours is primarily an agricultural country and the importance of livestock not only to the prosperity of agriculture but also to the health of our people needs no emphasis. I wish the College a grand success and hope that in the years before her, her service to the country will be made available in a larger measure and in a wider sphere.

Raja Sri Shanmuga Rajeswara Sethupathi.
MINISTER FOR PUBLIC WORKS.

FORT ST. GEORGE,
MADRAS.
December 28, 1954.

I am glad to learn that the Madras Veterinary College which has all along been doing very useful work will be celebrating its Golden Jubilee next January and that the Prime Minister is expected to inaugurate the celebrations I wish the function every success.

S. S. Ramaswami Padayatchi.
MINISTER FOR LOCAL ADMINISTRATION.

NEW DELHI
27th December, 1954.

The need of trained veterinary personnel in the country is urgent as well as extensive and I am sure that the Madras Veterinary College will play a significant role in training future veterinarians for the service of the country.

K. R. Damle.
MINISTRY OF FOOD & AGRICULTURE.
VICE-CHAIRMAN, I.C.A.R.

GOVERNOR'S CAMP,
ORISSA.
28th December, 1954.

I gladly respond to the request of the Madras Veterinary College Golden Jubilee Celebrations Committee for a message on the happy occasion of this Jubilee of the College.

The Madras Veterinary College has a glorious record of work to its credit, and Madras is rightly proud of having so well equipped an institution. It has provided the various grades of staff required by the Animal Husbandry Department of the Madras Government, and the Madras University of which it is a constituent College has pioneered in the development of Veterinary Science as a Subject for a University degree course.

The staff of the college have commendably enriched Veterinary Science and practice befitting the traditional pre-eminence of Madras as a pioneer in the field of biological studies and numerous students from the various other States of the Indian Union and also from distant lands have been attracted from time to time by the facilities available in the college. I, therefore, congratulate all those connected with the college on the achievements of the college and on its reaching the impartant stage of Golden Jubilee.

That animal care received due attention in India even from the earliest period of her hoary history is evident from the fact that one of the Pandava princes, Sahadeva, is credited with having written a work dealing with the diseases of horses. In any predominantly agricultural economy like ours, livestock problems naturally loom large, and while Asoka Maurya opened hospitals both for human beings and for animals, we have the testimony of more than one ancient treatise about our forbears having cultivated their own equivalents of present day S P C A ideals. Even today the really good shepherd of our countryside is the one that is conversant with animal diseases and handy remedies therefore, and the observance of a festival like Mattupongal also shows the integrated sense of values that we have long cultiveted in India.

Great and inspiring indeed is our ancient tradition of veterinary medicine and animal husbandry, and for this reason even the celebration by the College of its completing a mere 50 years is really a reminder of the excellence of the tradition that we have to enrich and continue under the mordern conditions of new pests and new diseases incidental to the complexities of a fast changing society.

Since it is usual for allopathic doctors to aver that our old medical science, Ayurveda, has long ceased to grow or develop and has therefore stagnated and become unsuitable for wide application, we should be careful that a similar fate does not overtake our endeavour in the department of veterinary science. This science should therefore grow and not stagnate. That this is assured in the Madras Veterinary College, now 50 years young, is indeed a matter of legitimate satisfaction as the college has a wealth of talent in its large team of staff and adequate equipment also, built up over a long period of years.

That the institution grows from strength to strength is therefore my earnest prayer. The nation's well being depends a good deal on the welfare of our dumb fellow creatures also, and I hence hope that the Madras Veterinary College would long continue its inspiring tradition of efficient service and sound scholarship in the field of veterinary medicine and animal husbandry.

I wish the Golden Jubilee Celebrations every success.

P. S. Kumaraswamy Raja

CALCUTTA,
30th December '55

I trust the celebrations will be very successful and may. I take this opportunity of sending herewith my best wishes for the successful termination of the Golden Jubilee Celebrations of the Madras Veterinary College.

(Sd.) ——
Minister Agriculture & Co-operation Dept.
Government of West Bengal, Calcutta.

SCHOOL OF AGRICULTURE
CAMBRIDGE,
4th October, 1954.

This achievement has made possible work in the field in which I am particularly interested, that is, the improvement of the animals themselves by better breeding and better feeding. We would like to pay tribute to what has been done in this respect in the College in the past and to wish those that work there still further success in the future.

Dr. J. Hammond
University of Cambridge.

22nd October, 1954.

Having been associated with the Madras Veterinary Department for nearly twenty years, I am naturally very interested to hear that the Madras Veterinary College has reached such an advanced age and I am very glad to hear that it proposes to celebrate the occasion by bringing out a commemoration volume of the College Annual.

Everyone must know that it was generally considered that the standard of education at the Madras Veterinary College was some of the best in India and I believe it had the honour of being the first veterinary college in India to gain affiliation with the local University. I am quite sure that these good beginnings will be continued and I wish the Madras Veterinary College all possible success in its future endeavours.

Frank Ware,
Department of Agriculture, London.

ROME,
10th November, 1954.

It gives me much pleasure to offer my congratulations to the Madras Veterinary College which in January 1955 will have lived for 50 years. During my tours in India one of the "high lights" has been to visit this College, to talk with the Principal and teaching staff, to examine the teaching facilities and metheds and, abeve all to talk with the students.

No matter what our plans may be for livestock improvement, be it in health or quality of products, the initial work must lie in the Veterinary Colleges. The training given to Veterinary students will determine the place to be occupied by the Veterinary Profession throughout the world. We veterinarians, have an important and ever—extendiag task to perform in world affairs: not only are we guardians of the health of livestock, we have also a big part to play as guardians of human health for not only are there diseases of animals transmissible to man, which we must control in the animal, but we must accept responsibility for a sound, healthy food supply, so far as animal products are concerned.

Madras Veterinary College is playing a great part in the education of future veterinarians for India. I predict, with confidence, that it will continue to do so for many years to come. My warmest greetings to this School and best wishes for its future.

T. Dalling,
Veterinarian, Animal Branch,
F. A. O. of the United Nations, Rome.

INDIAN VETERINARY RESEARCH INSTITUTE,
6th June, 1954.

Please accept my congratulations on the occasion of the Golden Jubilee of the Madras Veterinary College. It is a matter of great regret to me that on this momentous occasion I am unable to be present in person. The Madras Veterinary College is one of the oldest veterinary teaching institutions in the country and it was the first to adopt a degree course. It has always striven to maintain its standards high and its staff have made valuable contributions to research. We are all justly proud of the institution and I am confident that it will contiune to render the same useful service to the profession as before.

L. Sahai,
Director I.V.R.I. Mukteswar.

I.C.A.R. JAMNAGAR HOUSE,
NEW DELHI.
31st December, 1954.

The celebration of the Golden Jubilee of the Madras Veterinary College marks the completion of 50 years of meritorious service rendered by the College to the profession and the country. It is very heartening to recall that almost since its inception this institution has maintained a good teaching standard, and many of its graduates have, through efficient service, risen to high positions in Government veterinary services not only in Madras and other States but also in the Centre as well as many countries in the Far East. It was also the first veterinary college in the country to secure University affiliation for the grant of the Bachelor's and higher degrees in veterinary science. The lead given in this respect by the Madras College has proved very helpful in stimulating the other veterinary colleges in the country to improve their standards of teaching and to get affiliated with Universities. Over and above their teaching duties, the members of the College staff have engaged themselves in researches on important problems relating to veterinary science and animal husbandry as and when their work permitted. Such activities on the part of the teaching staff are always very desirable, and there is no doubt that in the case of the Madras College they have, along with the good laboratory and hospital facilities available there,

proved very useful in imparting a sound training to the students. As a matter of fact this College holds such an honoured place in the profession that the Madras Government may well be proud of it. I am sure the Madras college will continue to serve the country and the profession and to set a good example for the other veterinary colleges through its persistent urge for improvement. In recent years there has been a tremendous increase in the requirements for veterinary graduates for the country's developmental plans relating to animal husbandry. This has put a heavy strain on our existing veterinary colleges which have been asked to admit students in much larger numbers than heretofore. I trust the Madras Veterinary College will play the part that is expected of it and produce more and more veterinary graduates in the years to come.

P. N. Nanda,
Animal Husbandry Commissioner,
with the Government of India.

UTTAR PRADESH LUCKNOW,
4th January, 1955.

I have had the opportunity of coming in close contact with the graduates of the Madras Veterinary College both at the Indian Veterinary Research Institute and in the various States during the past 26 years of my service and can say with confidence that their standard of professional attainment is as high as in any other country.

R. L. Kaura,
Director of Animal Husbandry.

BIHAR,
31st December, 1954.

I have watched with interest the lead that this premier Veterinary College in the South has taken in the renaissance in veterinary education in India and have admired its devotion to this sacred task. It can look back with pride over useful services done and derive inspiration for further achievements. It is indeed a matter of great pleasure to watch it pass the land mark of half a century. May it grow from strength to strength.

I. Malik,
Director, Animal Husbandry.

DEPT. OF ANIMAL HUSBANDRY, TRIVANDRUM,
3rd January, 1955.

On the occasion of the celebration of the Golden Jubilee of the Madras Veterinary College as an old student of the College with 24 years standing I could compare, take stock and appreciate the tremendous strides made in the field of University education, Research and curative treatment and with a heart full of reminiscences, I have great pleasure to send my hearty greetings.

V. K. Madhava Menon,
Director of Animal Husbandry,
Travancore-Cochin State.

BANGALORE,
7th Jaunary, 1955.

Madras Veterinary College is a magnificient Institution with a fine record of work and has done much to raise the estimation of the Veterinary Profession in the public eye. Men may come and men may go, but the Madras Veterinary College is bound to go on for ever from success to success in the service of our Motherland.

Jai Hind!

M. S. Sastry, G.B.V.C.,
President, The All-India Veterinary Association.

BANGALORE,
1st January, 1955.

None can dispute the fact that Madras Veterinary College has made history in the Veterinary World, within the short period of its existence.

Amongst her alumni, we have had distinguished Research workers, some of whom of international repute, eminent clinicians, able administrators and professors. The notable part they have played in the matter of organising the profession on an All-India basis and running a Journal, is now a matter of history. It is no mean contribution which they have made towards the march of science in this country.

Surely there must be really something great with an *Alma-mater* that could lay claim to such a galaxy of outstanding personalities in all fields of her activities. May she continue to serve our country in an ever-increasing measure, is my earnest prayer!

T. Vinayaka Mudaliar,
(Rtd.) Livestock Development Officer,
General Secretary, The All-India Veterinary Association.

JABALPUR,
10th January, 1955.

As an old boy and teacher of this College, I offer, on this occasion, my fervent prayers that this College should rise from prosperity to prosperity as it has done in the past, that the standard of teaching and Research should rise even higher and higher year by year and that the College should be one of the best of its type in the world.

I wish the teachers and the students all well and request them to maintain the high reputation the College has acquired, bearing always in mind the motto "SERVICE OVER SELF".

May the Great Almighty shower His blessings on the College, the staff and students.

H. N. Chelva Iyengar,
Professor of Anatomy, Madhya Pradesh Veterinary College.

INDIAN VETERINARY RESEARCH INSTITUTE,
IZATNAGAR.
1st January, 1955.

It is a matter of great pride and pleasure for us all, that the Madras Veterinary College is celebrating its Golden Jubilee this month after fifty years of useful service to the country.

Service rendered by my *alma mater* is incalculable. Able handling of animal husbandry and disease control depends on a band of well trained Veterinarians and the Madras Veterinary College has aptly fulfilled its mission. Credit for this goes to the team of devoted workers who have nourished this Institution since its inception.

May the College prosper and be a constant source of inspiration for future generations.

C. SEETHARAMAN,
HEAD OF DIVISION, BIOLOGICAL PRODUCTS.

XXXXXXXXX ~~BOMBAY STATE~~,
Poona, 13th January, 1955.

I am glad to hear that Madras Veterinary College is celebrating its Golden Jubilee on the 17th January, 1955. Befitting the occasion you have been lucky to have Pandit Jawharlal Nehru, Prime Minister of India to inaugurate the function.

S. R. CHADHA,
DIRECTOR OF VETERINARY SERVICES,
BOMBAY STATE.

Development of Veterinary and Animal Husbandry Work and Education in India and the Madras State.

BERTIE A. D'SOUZA, *Principal.*

SUCCESSFUL agriculture is dependent in no small measure upon a well balanced livestock industry, and the economic production of livestock depends on efficient Veterinary Science. It may be interesting to recall that Veterinary Science was recognized over 5000 years ago. We find in the Babylonian Code of Laws in 2000 B. C. sections designating the fees that the animal doctors could charge for his services. Veterinary Science has also been recorded in the history of the Roman Empire. Many manuscripts written hundreds of years ago, and descriptive of the various diseases and plagues of animals, are now on exhibition in the British Museum. Similar records and names of renowned animal doctors are found in the Sanskrit manuscripts of India. Animal medicine was held in equal honour with Human medicine, and both were included under Ayurveda-the Science of life.

The first Veterinary College was established in France in 1762. All animal doctors prior to that were emperics. The evolution of the Veterinarian from the emperic to the present day specialised expert has been a slow process; but thanks to the educators, it has been accomplished.

Today a Veterinarian is one with a knowledge of the nature and prevention of animal diseases, and their control. the housing, feeding, caring and breeding of livestock, and the healthfulness and wholesomeness of animal products As a result, there has developed through the years a system of specialisation by which Veterinarians are engaged in teaching, research and investigation, veterinary public health work, milk and meat inspection; general practice, the manufacture of Veterinary biologicals and an efficient corp of Army Veterinary Remount and Farm Services.

The begining of organised rational veterinary work in India may be traced from 1788, when Joseph Eral, published in Calcutta an English translation of a Sanskrit work on the diseases of horses. Subsequently, J. P. Pigget, an Officer of the Indian Cavalry published also in Calcutta, a treatise on the horse in India and suggested that Government should take up horse breeding. The East India Company started horse breeding studs, but having met with collosal failure due to rampant diseases, the actual recording of Veterinary work started in 1799, when Veterinary Surgeons trained in the London Veterinary College were drafted to India, for organising cattle breeding and the establishment of studs for breeding horses for the Indian Cavalry.

William Moorecroft was one of the first Veterinarians, who came to India in 1808, and was noted for his scientific keenness, drive and ability. He came to India on an assignment with the East India Company to be the Superintendent of the Bengal stud, located at Pusa. It is recorded that with specialised knowledge and improved management, the loss from diseases in horses fell to 90%; and it was Moorecroft, the Veterinarian that introduced the cultivation of oats in India for the first time. In an attempt to improve the breed of Remounts in India, he undertook some tours in search of breeding stock and while on the mission he was murdered. Moore-

croft prepared copious records of valuable veterinary information and a variety of subjects, contributing a great deal to the establishment of the value of veterinary knowledge in the care and management of studs and the breedings of horse. He warned the Government of India against fatal diseases met with in Punjab, which from the description has since been identified as Anthrax. He is credited to have placed the Kashmir Shawl Industry on a sound footing. His tomb is in Lahore.

The earliest available official reference to veterinary work lies in the general order of the Bengal Army directing the removal of afflicted animals and inspecting them by officers capable of distinguishing the disorders of horses. Then there was not a single qualified Veterinarian in India and only two in England In 1799. five Veterinary Officers trained in London proceeded to India to be attached to British Regiments serving in India. From 1826 following the death of Moorecroft, until 1832 the management of horse breeding establishments was transferred to Infantry and Cavalry Officers. But from 1832 consequent on severe losses from diseases, the East India Company insisted upon Veterinary Officers forming part of the staff of various departments and J. T. Hodgson was one of them. From the Government Horse Breeding Stud at Hissar in the Punjab, he was appointed to the Government Bodyguard at Calcutta. and was directed to train assistant apothecaries as Veterinary Surgeons for the troops of the Bengal army. But in 1882, Hodgson reported that this scheme of training Indians could not work and he submitted to the Government of India, another scheme for the creation of an organised Veterinary Service, but these proposals, however, were not acted upon.

In 1827, twelve Veterinary Surgeons came to India and in 1828, a further 13, all meant for the care of army animals, but the Veterinary Department of India remained without an Official head or administrative officer for 40 years. Thus the information on the early Veterinary work done in India with regard to diseases of domestic animals, was obtained from the records of British and Indian Cavalry Regiments. For example, in 1881, Griffith Evans, an Army Veterinary Officer demonstrated for first time the flagellate organism in the blood of horses, affected with Surra, a disease affecting all classes of animals in India, of which little was understood. This discovery has since proved to be an advance in the knowledge of protozoan diseases, and have been of immense benefit to the human race, as well as their livestock.

The next advance in Veterinary work in India was the recommendation of Hallen, of the formation of the Indian Civil Veterinary Department with schools for the training of students. Hallen joined the service of the East India Company in 1850, in the Bombay Veterinary Service and in 1862 became the inspecting Veterinary Surgeon of the Bombay Army. He organised the Veterinary Service of that force and established an army Veterinary School at Poona In 1869 his services were requested by the Government of India in connection with the Cattle Plague (Rinderpest) and became the President of that Commission which sat till 1872 In 1892, he became the Inspector General of the Civil Veterinary Department in India

Another personality in Veterinary Development in India was Col Peace, who raised the Lahore Veterinary School from small beginnings to an outstanding position He translated English text books to Urdu, he conceived the formation of an Imperial Bacteriological Laboratory, originated and edited the Journal of Tropical Veterinary Science and was the first to diagnose Dourine in India He worked on Surra and while engaged in

cattle survey in India, he published a useful series on the breeds of Indian Cattle.

The First Indian Veterinary School was opened in Babugarh in 1874, a similar one was established at the same time in Rangoon. The Babugarh School was later transferred to Lahore and it formed the nucleus of the present College. Subsequently a Veterinary College was established in 1886, in Bombay in the S.P.C.A. buildings which in 1883 was presented by a Parsi philanthropist, Dunshaw Petit. The first recommendation for a Veterinary College in Calcutta was made in 1871 by the Cattle Plague Commission. But action was taken only in 1891, when a philanthropist Babu Shoo Baksh Bagla contributed Rs. 30,000 to Government with some land. The Calcutta School was opened in January 1898 with the first Principal, Col. Raymond. In 1930 a Veterinary College was opened at Patna.

Another important step towards development of Veterinary education and research work in India was the appointment in 1891, of an Imperial Bacteriologist with head-quarters at Poona. Later this officer was placed in charge of the Veterinary Research Laboratory at Mukteswar for the investigation of diseases of domestic animals in all the Provinces. The first Imperial Bacteriologist was Lingard, a medical man. He is accredited with the important discovery of the affinity of arsenic for the parasite of Surra *T. evansi*. Since the establishment of the Mukteswar Institute, it has built up a world wide reputation, and turned out an immense amount of work of great value to the stock owner in India. The most important beneficial advance was the development under Dr. J. T. Edwards of a vaccine for the control of Rinderpest.

Besides the researches at the Indian Veterinary Research Institute, Mukteswar researches were carried out mainly in Madras Veterinary College and Lahore. The work at Madras, was continuous and spectacular and have contributed such to alleviate disease not only in this State, but also in the rest of India.

Later on in 1933, the Imperial Council of Agricultural Research, now the Indian Council of Agricultural Research, sponsored the systematic investigation of livestock diseases in all the major provinces. Veterinary Investigation Officers were then appointed; one such officer from Madras worked in collaboration with the Madras Veterinary College and the Indian Veterinary Research Institute Mukteswar.

As long ago as 1882, a course in Veterinary subjects was given in Madras at the School of Agriculture at Saidapet by Veterinary Surgeon James Mills, A.V.D.

The establishment of a Veterinary School in this State was first proposed in 1890 by Col. Hallen, who visited Madras in connection with the reorganisation of the Civil Veterinary Department, and took the opportunity to visit the Agricultural College, Saidapet, where Indians were given a short course in Veterinary subjects and were trained as Stock Inspectors for the districts. Due to the absence of many facilities at Saidapet, he suggested the establishment of a Veterinary School and hospital in the City of Madras, where the patients that might be sent to and received in the hospital, can facilitate the practical teaching of students on a sounder basis. But the proposal did not commend itself to the Government. However, in 1893 Government decided to start a regular class in Veterinary education at the Saidapet Agricultural College under the supervision of the Superintendent of the Civil Veterinary Department, to ensure the supply of a better class of candidates for the post of Stock Inspectors. The issue of opening a Veterinary College was again raised in 1899 by the Inspector-General of

the Civil Veterinary Department and he was supported in his proposal by Lodd Govindoss who offered a cheque for Rs. 10,000 for the proposed Veterinary College. But Government again considered that the establishment of a college to be premature.

In 1900, it was decided to establish as an experimental measure a few Veterinary Dispensaries in the State and to obtain qualified subordinates for the charge of these institutions. But, as this proposal of obtaining a qualified agency for the charge of the dispensaries proved unsuccessful, the Government of India suggested in 1902, advisability of opening classes in Veterinary Institutions with a course of practical instructions as could provide veterinary subordinates for service in Government. Government accepted this suggestion of the Government of India, and ordered that arrangements should be made for providing veterinary instructions in Tamil and Telugu at the Agricultural College, Saidapet on the lines suggested by the Government of India. But Vety. Major Gunn, who was deputed by the Government of India to organise these Veterinary classes, soon found that owing to unsurmountable difficulties it was not practicable to provide instructions in vernacular in this State. In the circumstances he submitted a scheme for the establishment of a separate Veterinary College in the City of Madras to provide a course of veterinary instructions in English. This scheme was finally accepted by Government in 1903 and ordered to start a Veterinary Institute in Madras in the neighbourhood of the hospital maintained by the Society for the Prevention of Cruelty to Animals at Vepery. This Veterinary Institute, which was subsequently designated as the Madras Veterinary College, was inaugurated on the 1st October 1903, in a rented bungalow called the Dobbin Hall, near the S.P.C.A. animal hospital. The hospital together with the stables and dog kennels was placed at the disposal of Government and formed the nucleus of the practice for instructions. The whole institution was placed in charge of the Superintendent, Civil Veterinary Department, who was under the control of the Board of Revenue till 1917. With the success of the College in sight, the land facing the S.P.C.A. buildings across the Vepery High Road, was acquired from the Church of Scotland Mission and permanent buildings were erected in it in 1904-1905, for the accommodation of the College and for the use as contagious wards, operation shed, dissecting shed, etc. The Dobbin Hall in which the College was temporarily located, was also acquired and converted into the College hostel. In 1907, further acquisition of the land adjoining the College buildings was sanctioned and acquired in 1909, to afford enough room for the expansion of the College. In 1918-19, a bacteriological laboratory was constructed for the use of the teaching staff for both research work and teaching and the College buildings were also extended. To meet the demand for more hostel accommodation, a new hostel was constructed on the "Lascar Lines" acquired from the Military department; and the existing hostel was converted into a dog hospital and practical class rooms. Several accessory buildings such as Operation Theatre, Shoeing forge, cattle weighing shed, etc were constructed during this period. In 1946, further alterations and extensions to the College buildings were ordered to be carried out, with a view to provide more and better accommodation commensurate with the activities of the College.

On the educational side of the College, the course of study in the College has always been very well co-ordinated and systematic. Besides teaching, the research work conducted in this College from its very inception includes diagnostic work and investigation. The main problems

that confronted the department in the early days being the control of cattle diseases that ravaged the State, the activities of the College in those days were focussed mainly on the elucidation of the cause, prevention and control of animal diseases. The researches done in the various departments of this College. besides being of scientific and academic importance, had a practical value in the control of animal diseases, and helped to save the livestock wealth of the State from the ravages of animal epidemics. Departments of the College like Pathology, Bacteriology, Anatomy, Physiology, Hygiene, Parasitology had contributed much in the advancement of the science. Numerous scientific papers from time to time are published by the staff embodying the results of the research work done here.

The syllabus of studies for Veterinary Science has been revised from time to time to suit the changed conditions, and peculiar requirements of animal husbandry in our country. Originally the College provided for a course of study for Diploma in Veterinary Science extending over a period of three years. In 1936, the Madras Veterinary College, was affiliated to the Madras University and the B.V.Sc., Degree instituted by the University was introduced in the College from 1936-37. In doing so, she was the first Veterinary College in India to offer studies at a University level. The old Diploma course with revised curriculam was however, continued concurrently with the new Degree course; and was afterwards abolished in 1946. In the same year the revised B.V.Sc., degree course extending over a period of four years and one term was introduced. In addition, practical farm training in animal husbandry is obtained on the livestock farms of the State for a period of 1½ months during the Summer vacation for the first three classes and two months for the fourth year class. Thus, the students put on a total of 6 1/2 months practical training in the farms, besides the IIIrd and IVth Year classes have also training in the wards and clinics of the College. The duration of the course of studies in Veterinary Science is five years in the majority of the Colleges, but in Holland it is six years, and in the Scandinavian countries, 5 1/2 years. In the United States of America, it is four years. The entrance qualification and the duration of the course in Madras are comparable to those in other countries. With the additional period of farm training, viz. 6 1/2, months it may be taken that the B.V.Sc., course in the Madras University is really a five years' course.

Besides the Diploma and Degree courses of study, a Refresher course was instituted in 1922 and still continues to enable selected members of the Veterinary Assistant Surgeons to refresh their technical knowledge. Another course, the Stockmen Compounders' course was instituted in 1942. This was later changed to a Livestock Inspectors' course, in order to provide a cheaper agency and help the Veterinary Assistants in the field, in routine work of livestock breeding and to provide first aid in villages. This course has again been changed, to a Stockmen Course. There is another course, the Flaying course, set up mainly to train skilled flayers, in order to help the hides and skins industry in this state and thereby save a big loss suffered by this trade through faulty flaying. The curriculam of the B.V.Sc., Degree is so balanced that it not only tackles the disease problems, but also problems related to the production of good and pure livestock and their products.

Admissions to the College was first limited to 20. But owing to the large demand for the service of Veterinary Assistants, the number was subsequently raised to 40 inclusive of three from outside this State. After the introduction of

the Degree course the admissions rose to 100 in 1947, and again restricted to 80 since 1949.

The diagnostic work, namely the number of clinical specimens of all types received for examination from the entire State, Corporation of Madras, private bodies and other States, rose from 300 in 1919-20 to 10,000 in 1948-49 and 13,411 in 1952-53. The attendance in the hospital attached to the College rose from 800 in 1904 to 8,000 in 1948, and 11,346 in 1952-53 bringing in a receipt from admissions and treatment alone of Rs. 19,909.

Thus the Madras Veterinary College, originally started in a rented building, has gradually developed into a first-rate professional institution with all the necessary equipments and amenities during the last 50 years and has extended its activities in all directions-teaching, research and disease control and livestock development.

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Rich in Vitamins 'A' and 'D'
Vit. A : 5,000 I. Us/Gm.
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Full particulars from

Fisheries Technological Laboratory

(Department of Fisheries, Government of Bombay),

Sassoon Dock, Bombay No. 5.

Suggested Re-Organisation of Education in Veterinary Obstetrics and Gynaecology in Indian Veterinary Colleges

by

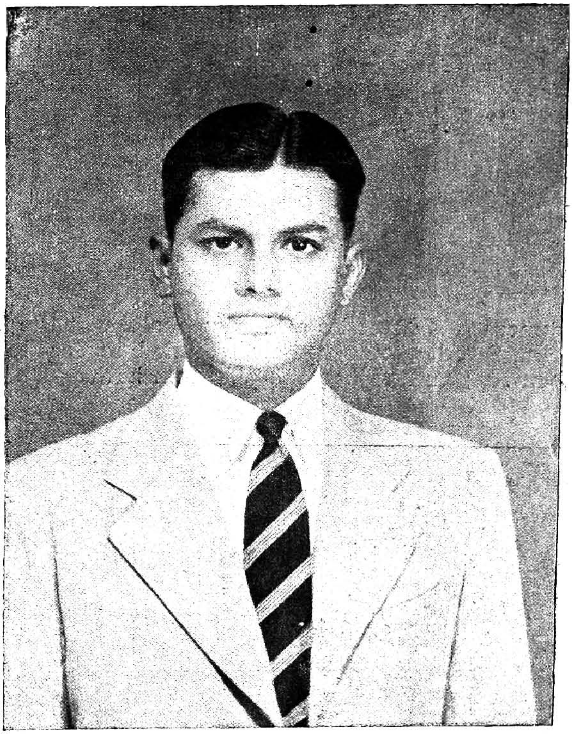
PROF. NILS LAGERLOF,
VMD-STOCKHOLM, DVM (hc)-HANNOVER, MRCVS (hc)-LONDON.
Chairman, International Standing Committee for the stud of sexual physiology and pathology of reproduction including artificial insemination in cattle.

IN a purely agricultural country like India, 87·5% of whose population is directly or indirectly dependent upon it, bovines play a vital role. Bullock to till the soil and cow to produce milk, the most perfect protective protein. Due to the prevailing land tenure systems and other causes, the bullock must remain as the main source of traction for a long period to come. In order to improve yields to feed the ever increasing population, in addition to the use of manures both of farm yard and chemical origin, the use of improved implements is necessary. To draw these improved implements, strong and healthy bullocks are essential. For vigorous and healthy nationals, in addition to the adequate quantity of cereals, protective proteins are a great necessity. These can be best provided in milk.

At present the majority of the Indian cows are poor yielders—average yield per lactation being 450 pounds with consequent per capita consumption of milk and milk products of 4 to 5 oz. per day as against 44 oz. in Sweden and similar heavy consumption in countries like U.K., U.S.A., New Zealand, Canada etc.

The traction power of the bullock and poor milk yield of the cow has been brought in by indiscriminate breeding over long periods. These defects can be rectified by the introduction of breeding on scientific lines. One of the essentials of better breeding is the availability of right type of bulls. India has roughly 48 million cows. Even if 50% of these cows are temporarily or permanently infertile, there will still be 24 million cows which have to be bred. For this about 2 lakhs bulls will be required for natural mating This number is neither available nor will it be economically possible to maintain, Hence the only way left is artificial insemination.

Large scale artificial insemination was envisaged in the Key Village Scheme of the First Five Year Plan of the Government of India. But before launching the scheme, the Government of India felt the necessity of organising it on proper lines and hence approached the Food and Agriculture Organisation of the United Nations for assistance in the matter. The F.A.O. deputed a team of three experts from Sweden to go round India, study the existing conditions, put up suggestions for the organisation of the scheme. The experts in addition to visiting the various States' A. I. Centres, studied the working of different Veterinary and Animal Husbandry Colleges and especially the teaching in



Dr. I. D. MANTRAMURHI
Dy. Director of Animal Husbandry.
(Veterinary)

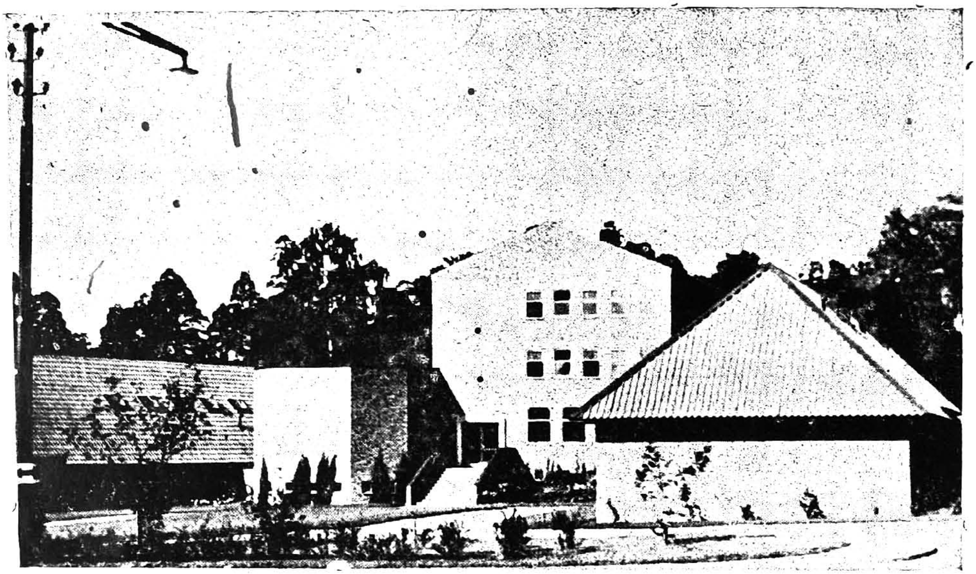


Fig. 1 :—The Department of Obstetrics and Gynaecology at the Veterinary College in Stockholm, Sweden. A part of the clinic building (left) ; the institution building (centre) ; and (right), the phantom hall.

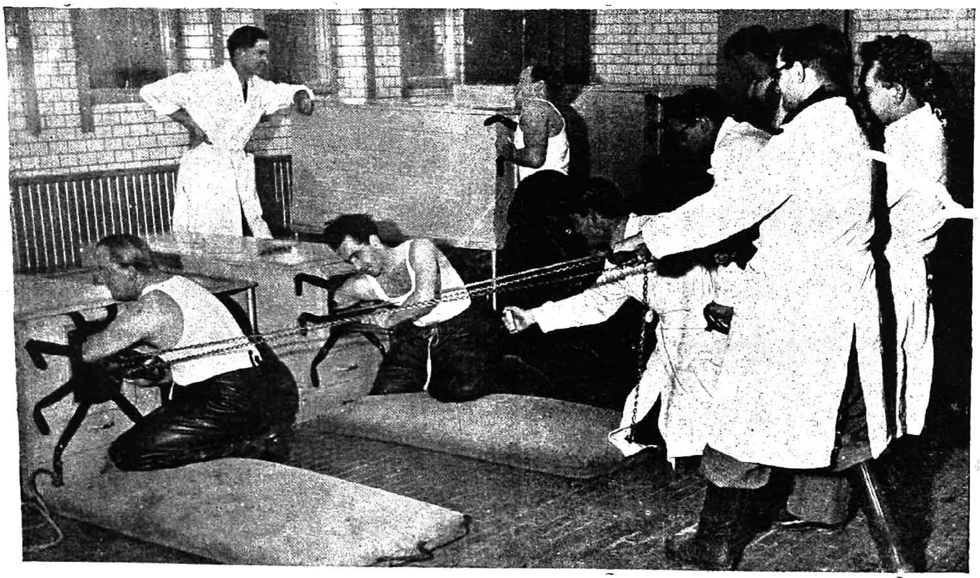


Fig. 2 :—This picture shows four phantoms for parturition training ; two of the "cows" are lying down and two are standing. These phantom boxes are being manufactured in India.

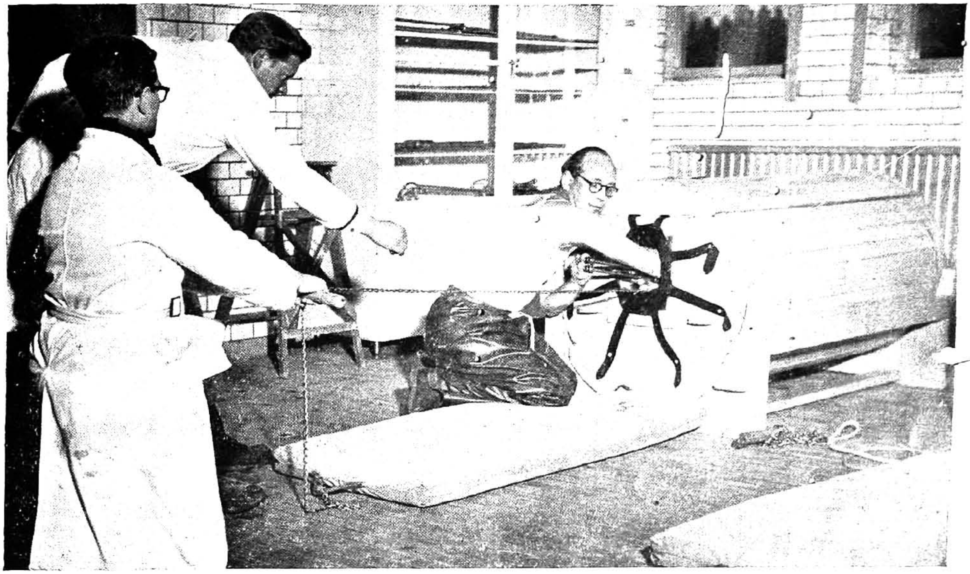


Fig. 3 ;—A phantom for parturition training, with the "cow" lying down. The student is using Thygesen's embryotome. This phantom can be revolved so it can also be used to demonstrate torsion of the uterus.

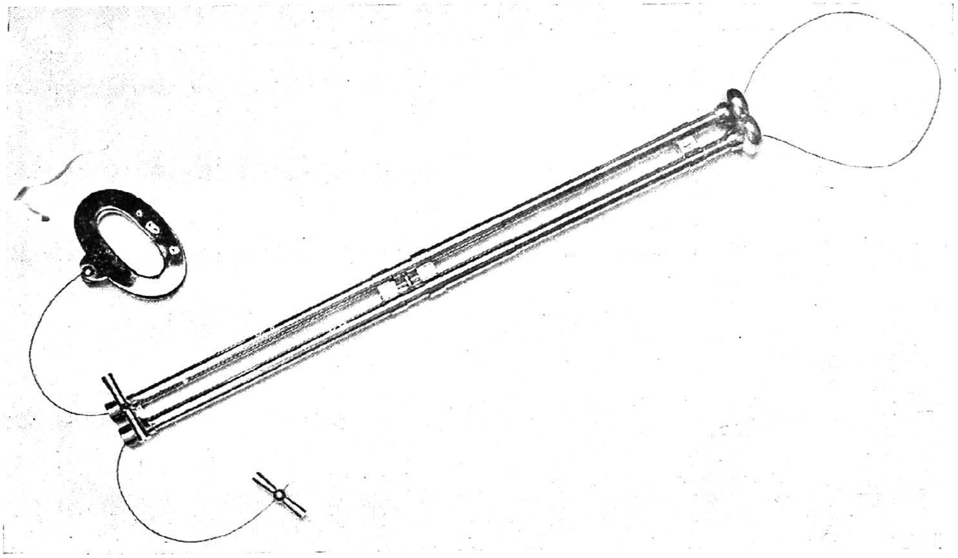


Fig. 5 :—Thygesen's emryotome—original model. For the last thirty years, practically all the veterinary surgeons in Scandinavia have used this type of embryotome and found it most satisfactory. The specially hardened mouth piece makes possible embryotomy in all foetal positions and in all directions. (Manufactured in India.)

Fig. 6 :—This shows removal of a retained after-birth from a phantom. On the ceiling of the phantom hall there are pictures to demonstrate sexual physiology, pregnancy diagnosis, etc,

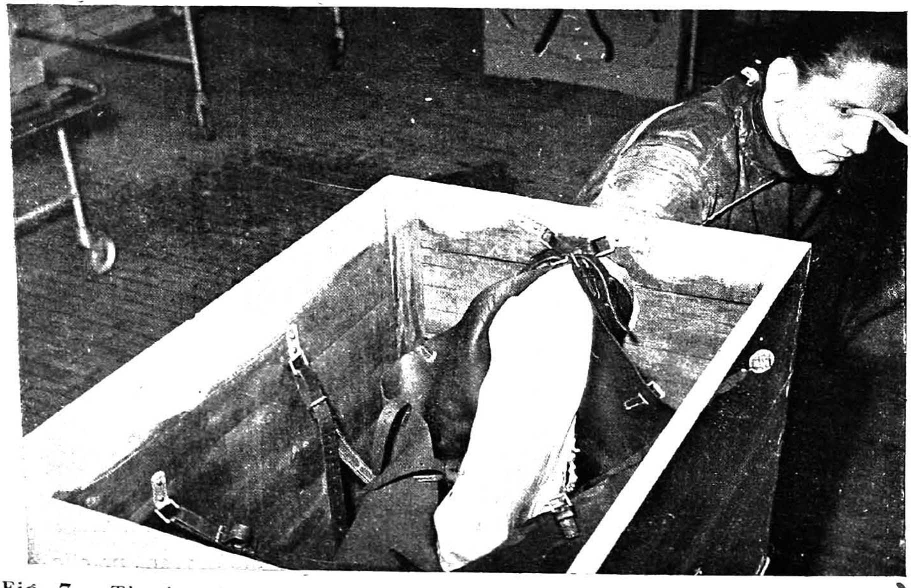


Fig. 7 :—The interior of an after-birth phantom, with the leather uterus open and a student removing a retained after-birth.

the subject of Animal Gynaecology, Obstetrics etc. At the completion of this exhaustive survey, they came to the conclusion that the introduction of A. I. without suitably trained veterinarians in the art of diagnosis of pregnancy, infertility diagnosis, its prevention and treatment, will have disastrous results in the long run as has been seen in some of the other countries. They felt that training of the staff in sexual physiology and pathology of reproduction (Obstetrics and Animal Gynaecology) was absolutely essential for the successful implementation of the scheme of A. I. They were further of the opinion that for obvious reasons such a training should be imparted at the Veterinary Colleges only. During the survey, they learnt that the subject of animal gynaecology etc. formed a part of the teaching in the departments of Surgery, Animal Breeding and Physiology and thus three different Professors were responsible for its teaching. This divided responsility lead to the neglect of the subject, as the subjects of Surgery, Animal Breeding and Physiology in themselves are vast ones and hence the Professors are neither able to devote the necessary attention to the teaching of the subject nor follow the ever increasing literature in this subject. Such conditions also prevailed at the Royal Veterinary College, Stockholm till the year 1900.

Teaching of veterinary obstetrics in the Royal Veterinary College in Stockholm was mainly concerned with parturition until 1900 and the professor of surgery was also in charge of obstetrics. However, about this time, Swedish veterinarians began to do more pregnancy diagnosis and sterility work. It became clear that it was no longer possible for the professor of surgery also to teach obstetrics and so in *1906* an assistant professor was appointed as head of the Obstetrics Department and of the ambulatory clinic run by the College.

In 1918, a professor was appointed for obstetrics and gynaecology, and since then the scope of this work has been steadily increasing. At present, as well as the usual training in treatment of dystokia, the course includes sexual physiology and pathology, sterility treatment of the domestic animals, and artificial insemination as well as infectious diseases of the genital organs in male and female e. g. brucellosis and mastitis. The Royal Veterinary College in Stockholm has tried to adapt its teaching and research work to the developments in farming and breeding methods and this has compelled a rapid increase in the teaching of and research into the breeding diseases of domestic animals. As it has been found more suitable, dogs are not treated in the obstetrics-gynaecology clinic but in the surgical clinic. In 1945, the department moved into modern buildings (Fig. I).

Staff Organisation.

At the top of the departmental staff is the professor and head of the Department of Obstetrics and Gynaecology. The stationary clinic and research work is done by an associate professor, an instructor, assistant professor in hormone research, assistant teacher in artificial breeding, instructor in artificial insemination, secretarial staff, and four technicians. In the ambulatory clinic, there is an associate professor, two assistants, and one assistant for special education.

The following laboratories conduct research and scientific work: a laboratory for the study of sperm morphology, a laboratory for sperm physiology, a laboratory for histologic work, and a laboratory for hormone analysis. There is a special research laboratory available for those studying to write a doctor's thesis.

During the last few years and at present this College is studying hypoplasia of the gonads in cattle (Eriksson - Lagerlof

Settergren), nymphomania in cattle (Garm) and the etiology and pathogenesis of certain types of sterility in bulls (Lagerlof and co-workers). In connection with this work, the excretion of neutral steroids in bull urine and its association with sterility is being investigated (Meschaks). Recently, work has been done on sterility in boars (Holst) and on serving inability in boars (Christensen).

In co-operation with the Animal Breeding Institute (Wiad), the relationship between feeding intensity, sperm production and serving ability has been studied. In this study, identical bull twins were used by Dr. Bane who has recently presented a thesis on this subject. During the last few years, work is in progress on cytomorphological studies on spermiogenesis in bulls (Knudsen), vibriosis in cattle (Boyd), leucocytes during the oestrous cycle (Moberg) and cortisone secretion in urine of bulls and cows (Holcombe).

Veterinary Education in Obstetrics.

In Sweden, the time it takes for a student to become a qualified veterinarian varies, but the average is six to six and one half years. In his fourth year of study, the student begins obstetrics with a preparatory course and attends two-hour classes once a week. The work is done nearly exclusively on "phantoms", a method not used in India.

The object is that the student works first in the "phantom hall" with non-living material so that when he later practices on living material which is liable to be injured, he will have had some previous experience. It is only by such a method that the student is able to get sufficient training in practices such as embryotomy and removal of retained after-births.

Since the material used i.e. unborn calves and uteri from cows about to calve and with attached after-births, must be bought from the slaughter-house, and thus may be infected, the phantom hall must be situated apart from the rest of the department buildings to prevent spread of infection (Fig. 1.)

Teaching of Calving Methods.

Five phantoms are used for teaching calving methods. Each consists of a wooden box or cylinder into which is fixed the pelvic bones of a cow or a mare and into which is placed a leather uterus (Fig 2, 3, 4.). The calves used are from cows near the end of gestation, which are slaughtered in the city slaughter house. These calves can be bought for the cost of their hides. To ensure a steady supply, refrigerator space is hired at the slaughter-house and thus there are always some in reserve.

The training consists largely of correction of abnormal presentations and the use of the embryotome. In the phantom hall, the students practice embryotomy for anterior, posterior, and breech presentations. In the student's fifth year, he assists in the ambulatory clinic in calvings in living animals, for which work he is now well prepared. Practising veterinarians who have had such training become so adept at embryotomy that very rarely is cæsarean section in cattle indicated or employed.

For embryotomy, Thygesen's model is used almost without exception (Fig. 5). Thygesen's original model has proved better than any of the modifications which have arisen, and it has now been in use for thirty years by all Swedish veterinarians in cattle practice.

Removal of Retained After-births on Phantom Cows.

Uteri from cows soon to calve are obtained from the slaughter-house. The calf is removed through an incision in the uterine wall, which is sutured before the

uterus is used. The cervix is removed and the real uterus placed in a leather uterus in the wooden phantom (Fig. 6, 7.). The student who removes the after birth wears a long rubber glove on his right hand and arm and an ordinary rubber glove on his left hand. During the phantom course, every student will take about *10 after-births* and after this training, he removes several more from living cows in the ambulatory clinic. In this way, he soon learns how to take, and also when not to remove, after-births manually.

Palpation of the Sex Organs.

For this purpose, a specially designed table (Fig. 8) is used to introduce the students to rectal palpation of the sexual organs of the cow. The student then trai n on cows waiting for slaughter at the slaughter house and finally in the ambulatory clinic he has more practice in palpation of the genitalia, pregnancy diagnosis and sterility treatment.

Ambulatory Clinic.

The ambulatory clinic of the veterinary college has been allotted a district in which it does all the veterinary work. In this practice, there are about 10,000 cows, 1500 horses and 4000 swines.

The clinic has six cars, Obstetrics gynaecology cases constitute a large part of the work. Every student works daily at the clinic for about three months.

Teaching in Hygienic Methods for Veterinary Field Work.

It is important that the students learn thorough and stringent hygienic methods. While he is working in the ambulatory clinic, every student must supply himself with rubber boots and for gynaecologic work, also rubber gloves and a rubber gown.

It is obvious, of course, that a practicing veterinarian who does not pay heed to necessary hygiene can very easily spread not only such diseases as tuberculosis, brucellosis and mastitis but also many puerperal and other infections causing sterility. Thus, it is of the greatest importance that veterinary students not only in theory but even more so in practice, should learn what precautions must be observed so that when they become veterinarians, they will not spread infections from diseased to healthy animals. We must admit that formerly veterinary education was considerably lacking in this matter. The teachers in gynaecology and obstetrics, especially those in the ambulatory clinic, have the responsibility and it is a big responsibility for the instillation of such hygienic ideas into the students. Naturally, if such a valuable part of veterinary education is to be done thoroughly, it is absolutely necessary that there are suitable equipment and rooms in the college for cleaning and disinfecting rubber boots, and gowns (Fig 9) and for sterilizing and drying rubber gloves. In veterinary colleges with no ambulatory clinic, it seems hardly possible to give the students proper training on how to practice good hygiene under field conditions.

This is a very important matter for the veterinary profession all over the world, and must be emphasized in every country where the fight against such bovine diseases as tuberculosis, brucellosis, and infectious venereal diseases is being intensified.

In order to bring about the suggested change in the existing arrangement for teaching of the subject in animal gynaecology etc. at the Indian Veterinary Colleges, the availability of trained staff was thought to be necessary. It was thought that such a training could be imparted to a batch of selected men from India at the Royal Veterinary College, Stockholm where, as described above suitable facilities are available for both

theoretical and practical training in this subject. To make this training programme possible, two fellowships were awarded by the F.A.O. of United Nations to Messrs. G. B. Singh (Orissa) and S. N. Luktuke (Indian Veterinary Research Institute, Izatnagar), six. by the Swedish Government to Messrs. C. R. Sane (Bombay) M. C. Cheyam (Madras), M.P. Johari (U.P.), S. M. Ishaque (Bihar), B. K. Basu (West Bengal) and M.L. Kohli (East Punjab) and one by the Government of Rajasthan to Mr. K.K. Vyas for a period of about one year. The course of studies started on the 1st of September 1954 and will terminate by the end of July 1955 when the scholars will be returning back to India.

These scholars are being trained keeping in view the conditions in India and hence I feel, they will be found suitable to teach the subject of obstetrics, animal gynaecology including artificial insemination on their return. Their services should therefore be utilized for the organisation of the Department of Animal Gynaecology, Obstetrics and Artificial Insemination and training of co-workers, students studying at the Colleges and the veterinarians now employed in A. I. work in the country, in addition to the running of the regional sterility scheme sanctioned under the auspices of the Indian Council of Agricultural Research.

Research.

Experience has shown that a teacher cannot be uptodate in his knowledge unless he stimulates research in the subject based upon the day to day observations and ever changing conditions. These scholars are therefore being trained to conduct and guide research independently in the subject.

Dated Stockholm the 29th October 1954.

Fig. 4 :—The top of the phantom is raised and the uterus opened; in this way, it is possible to watch the student's work as he corrects a malpresentation.

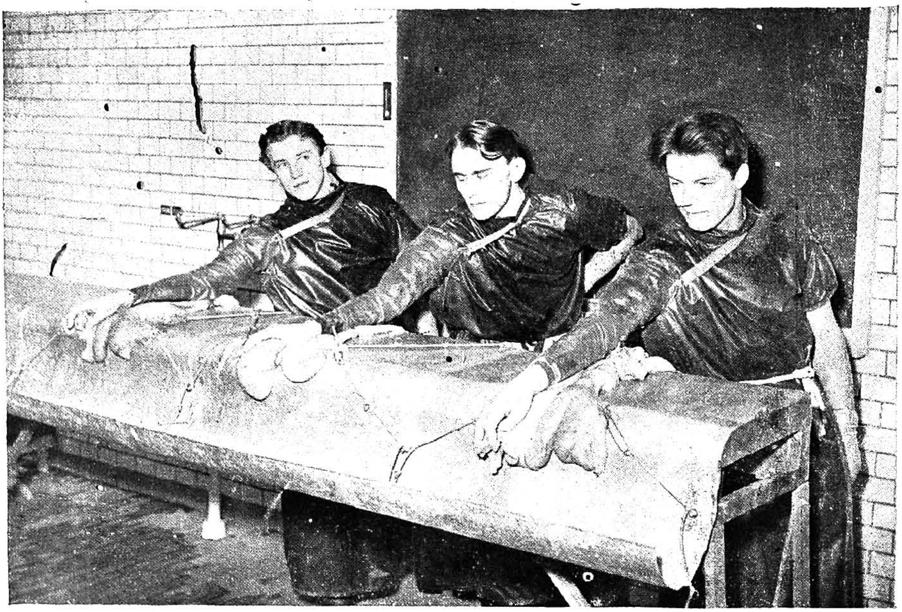


Fig. 8 :—Special table to initiate students into palpation of sex organs.

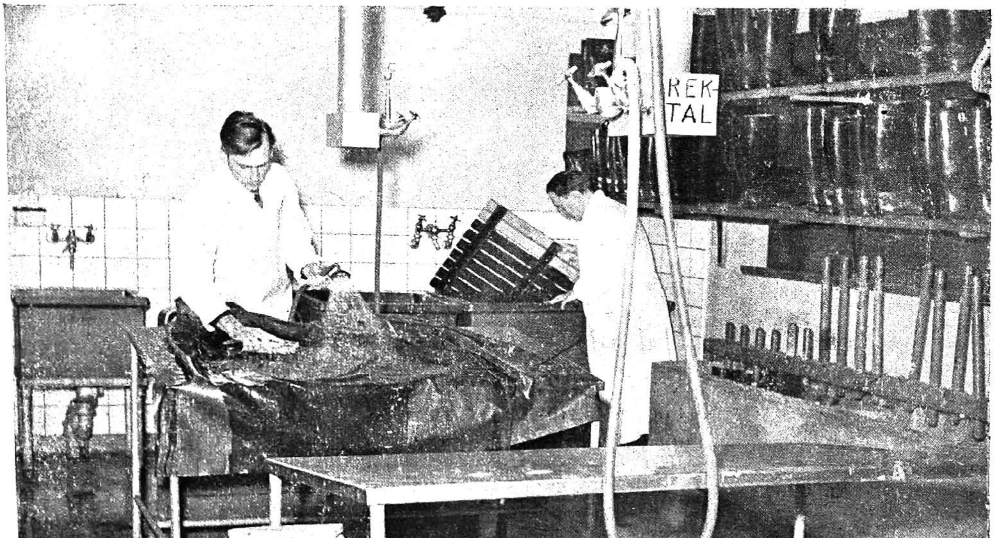


Fig. 9 :— Room for cleaning and disinfecting rubber gowns and boots. On the right, the rubber boots are kept immersed in disinfectant solution by wooden rods.

"A Time of Rejoicing"

COL. G. V. SHORT, M.R.C.V.S.

Veterinary Service Department, I.C.I. (India) Limited.

THAT is what a Jubilee means, and it is appropriately applied to the Golden Jubilee of the Madras Veterinary College. But apart from having survived for so many years let us consider what rejoicings are appropriate to the veterinary profession as a whole in India.

There are still some areas where rates of pay give little cause for jubilation, in which veterinarians understandably hold a pessimistic view of professional prospects, in general, and for their own States in particular. In addition it is difficult for any State veterinary officer to get an impression of the general development throughout the country. For these reasons opinions formed over the past few years during tours of the Indo-Pakistan peninsula, Ceylon and Burma may be of interest.

The status of the profession in India is rising slowly as a whole, despite the backward areas referred to above. This improvement may be traced to a variety of causes, chiefly the realisation, from the work of W.H.O., F.A.O. and other international organisations, that an increased proportion of animal protein in Asiatic diets is vitally important, Without this increase, in the form of meat, milk, fish and eggs according to local requirements the health of the people and the industrial development dependent on it are alike prejudiced.

It is obvious that every man leaving livestock production in the country for industrial attractions in the cities results in a net loss to this production of two men, i.e., one man less producing and one man more consuming. The remaining livestock producers must, therefore, be correspondingly more efficient if the present sub-optimal availability of animal protein is even to be maintained. To raise it to the accepted W.H.O. requirements will need an increased production of at least 1000%.

It is at this point that the veterinary and animal husbandry experts are rightly coming increasingly into the picture. Apart from improving the breeds of the animal concerned, which is a necessary but relatively long-term project, the immediate necessity is to reduce as far as possible the avoidable losses in animal protein food products.

It is most difficult to appreciate, even approximately, how enormous are these losses. It is only by applying the findings of research workers all over the world to field conditions, as we know them, that an idea can be got of the figures involved. Lord Boyd Orr, the eminent agricultural and livestock economist, with reference to the cautious figures supplied by F.A.O. workers, recently stated that if the intestinal parasite *Haemonchus contortus* alone could be eliminated the resulting gain in animal protein production would more than meet the demand of the world's deficiency areas. In this connection it is gratifying to note that a great national newspaper, the "Sunday Statesman", on 15th August, 1954, published the following article :

"Reducing Sheep Farmers' Losses—

Conclusions Drawn from Experiments—The benefits of scientific research sometimes come to be appreciated very slowly even when their economic importance is obvious. Losses caused to sheep farmers by intestinal parasites in their flocks have long been recognised abroad and measures have been taken to reduce them. Nothing similar seems to have been done in India until fairly recently.

In January 1953, the Indian Veterinary Journal published the results of work done in 1951-52 by the Madras Animal Husbandry Dept. in 12 different centres of the State to demonstrate the importance of de-worming sheep. The experiments were carefully controlled and there can be no doubt of the validity of the conclusions. These were that sheep drenched with phenothiazine, at a cost of 10 as. per head yearly gained on the average 6.6 lb. in weight as compared with sheep not so treated, and their general condition improved. At current prices the potential profit to owners was an average of Rs. 2-8 (reckoned in terms of live weight, not including wool) per sheep treated.

Unfortunately, marketing organisation is poor and purchasers do not usually pay higher prices according to individual weight, unless the whole flock in an area has a higher average. So, unless de-worming is carried out on a large scale, individual sheep-owners are unlikely to benefit. The official sheep census figure (1945) for Madras was 10,750,000. On this basis the annual loss to the livestock industry of the State through failure to treat sheep for intestinal parasites has been calculated at Rs. 3·5 crores. So far as is known nothing further has been done to reduce the loss".

If we apply this to the all-India sheep industry based on 1945 figures, and excluding the dry areas of low incidence, the estimated annual loss to the country amounts to Rs. 12 crores, but must now actually be considerably higher because of the increased breeding undertaken since that date.

It will be seen, therefore, that if we add to this loss caused by haemonchosis in sheep that caused by the same disease in cattle, as well as that due to rinderpest, fascioliasis, paramphistomiasis, mastitis, hæmorrhagic septicæmia and functional sterility our great need is not necessarily for more animals but for more efficient animals.

On what does animal efficiency depend? Basically it must always depend on disease control, and therefore, on the veterinary services of the country. The animal geneticist and dietician can achieve nothing if their improved animals cannot live when transferred from the shelter of the breeding farm to village life. We all know of too many instances where this has happened—where it need not have happened had the problem been adequately realised and preventative measures provided. The following paragraph from "Commerce" (28th August, 1954) emphasizes the necessity of developing control measures parallel to improved breeding:

"The Government of India has under consideration measures for the development of sheep farming industry in India with a view to producing finer wool which can stand comparison in quality with imported wool. The measures are intended to make the Indian woollen industry self-sufficient in raw wool without depending on imported stuff from Australia."

If this need for more animal protein is realised, as it now is, why is there still only about one veterinarian to each lakh of animals in India? And why have the veterinary colleges of the country such difficulty in recruiting students of the right type to fill the depleted cadres in

the States ? It must not be thought that these problems are peculiar to Asia, though they are more acute here than elsewhere. They are problems of every country in the world where increased animal protein production is urgently wanted. The answer is not far to seek. The practitioner of veterinary medicine in the villages, often remote from help, must have more than average self-confidence, ability and diligence. He must also be able to teach the villagers and to inspire their confidence in him and in their own ability to help themselves under his guidance. Whatever his age he must attain the status of an 'elder' in the community.

Unfortunately men of this quality are not common anywhere in the world. They command a premium in any walk of life. In Europe, America and Canada, in Russia, Australia and New Zealand this fact has been, and is being faced with increasing honesty. India must do so, too, if she is to hold her rightful place in this field. The proverb: "The labourer is worthy of his hire" is an equation, which may be expressed: "The hire is worthy of the labourer". Unless these two expressions balance, the equation cannot be solved. Abroad it is being solved in the only possible way—by raising the value of the hire to the increased value to the country of the labourer—the veterinarian.

Much has been done to balance this equation in some Indian States. Much more remains to be done. It is no true answer to say that, as a country, we cannot afford to pay what obviously must be paid sooner or later. We cannot afford not to afford it. The longer the bill is deferred the greater the accumulated interest in terms of preventable loss.

Neither is it an entirely true answer to say that our veterinary colleges are full and can take no more students. While this may be so in some cases let us ask ourselves honestly how many of our students, particularly from States of low pay scales, have entered because they want to be veterinarians and nothing else, and how many have been 'drafted' to our colleges, with the help of government grants, having failed to gain acceptance as students for professions of better status and remuneration ? It is not suggested, for a moment, that the majority of such students do not make good veterinarians. Most of them do, and with greater credit to themselves than those whose natural inclination lies in this direction, since they must work far harder. But human nature dictates that a man is usually happiest in the work of his first love.

We have had one proverb—here is another : "A house divided cannot stand" It refers to the old Families, or Houses as they were called, who held power in 16th Century Britain. In every case where dissension and division occurred among the members of such a family the power of the House was destroyed. If selflessness and unanimity are essential to maintain strength they are all the more necessary to build it. In India we have not yet built our national veterinary house, like those abroad, though the Steering Committee in Delhi, and the State Registers of veterinarians now being prepared are laying the essential foundation on which we may hope to build the required central statutory veterinary authority. But we must build it ourselves. There are no contractors for this work. We must each be ready to labour, without question, as required by the architects.

What of the other side of the question —the livestock owner ? Has there been any development there ? It is encouraging to note that there is a very great increase in their readiness to ask advice in time to give a chance for successful treatment, and to buy the product advised by the veterinarian where his hospital

budget does not allow free supply. A few years ago such co-operation was rare indeed. The reason for this changed attitude of the owner is partly the rising value of agriculture animals, and partly the availability of specific treatments within his purchasing powers; but above all the credit must go to his increasing confidence in his veterinarian—a high tribute to his teaching powers.

The Madras Veterinary College, one of the foremost veterinary educational institutions in Asia, has always played a notable part in training men of high professional ability and status. There is every indication that these attributes are safe for the future in her hands.

Poultry Improvement in India

by

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Introduction.

THOUGH India and her surrounding countries are the original home of the ancestors of the domestic fowl, it is indeed surprising that, until recent years, little attention had been paid to the development of the poultry industry. India is predominantly an agricultural country and the direct contribution of the livestock is about 16 per cent of the total national wealth. The total annual cash value of livestock and livestock products is Rs. 40,000 millions. The animal population in India consists of :—

Cattle and Buffaloes	177 millions
Sheep and Goats	84 ,,
Camel	1 5 ,,
Pigs	3 7 ,,
Poultry	69 0 ,,

The number of eggs produced per annum is over 1341 millions, worth about Rs 107 3 millions. However this number is much too small to meet the nutritional requirement of about 350 million human population. Poultry farming in India, once the Cinderella of Agriculture is now one of the important livestock enterprises Prior to the Second World War, poultry keeping remained uneconomic owing to the small number and size of eggs produced per hen. Factors responsible for this have been poor stock, prevalence of contagious diseases of poultry, lack of appreciation of the nutritive value of eggs and above all prejudices against the consumption of eggs and poultry meat by a large proportion of Indians. The prevailing food shortages have brought home to most people the great importance of poultry products not only for well being but for the very existence of the people. India having nearly a fifth of the World's human population should be one of the richest country but the fact is we are the poorest having a very low standard of living and comparatively short expectation of life. The fundamental cause of this is our chronic under and mal-nutrition with its inevitable effect on the health and well-being of the people. With the growing realisation of the importance of egg in the diet by masses of the orthodox vegetarian community, people are becoming more poultry minded and poultry industry in this country has now a good scope.

Commercial farms are still unknown and most of the production is in the hands of poor peasants who usually keep only a few laying hens mostly for their house-hold use. The average annual consumption of eggs per head of population in India is only four as compared with over 400 per head of population in U S A., Denmark and certain other countries.

The hen population is fairly well distributed in the country except the sparsely populated areas in East Punjab, Rajputana Central India, Assam and Western India States. The annual production of eggs in the different States varies considerably and Madras, Bengal and Uttra Pradesh (U P.) are leading in the matter of production and supplies. Imports of eggs

and egg products into India are practically negligible while no export trade in eggs of any commercial importance has developed. India possesses about 4 million ducks. Madras and Bengal had 75 per cent of the total duck population in India prior to partition of the country. Geese and turkeys lay only a small number of eggs per annum in spite of heavy feeding and hence they are seldon maintained for eggs but are generally reared for table as well as watch and ward purposes. The total number of guinea fowls estimated at 0·4 million are found mostly in the districts of Allahabad and Sharanpur of the Uttar Pradesh. They are generally kept for both eggs and meat. The partition of the country in 1947 resulted in a temporary set back in the poultry industry as a number of poultry fanciers migrated to Pakistan. However, the position is steadily improving.

Breeds.

The hen population in India mostly consists of the non-descript varieties and the total number of improved hens is only abont 1·4 per cent of the total hen population. The estimated average annual egg production per village hen in India is 53 as compared to many other countries which have an average annual egg production of 120 per bird. The eggs produced in the villages are less than an oz. per egg in weight. The indigenous fowls *(Desi)* have several local breed names, such as *Aseels*, *Tenis*, *Nacked Neck*, *Chittagongs*, *Punjab Brown*. *Ghagus*, *Lolab*, *Karaknath*, *Kashmir Faverole*, *Titri*, *Busra*, *Tellicherry*, *Denki*, *Kalahasti* etc. These birds weigh 2-3 lbs. at maturity depending on sex.

The pure bred imported breeds which have been bred and acclimatised in India are mostly the White Leghorn and Rhode Island Red. Small numbers of Black Minorca. Barred Plymoth Rock, Austrelorp and Light Sussex are also kept by some of the farms. The breeding of exhibition class of poultry has also received a great impetus. India was once noted for its *Aseel* but with the decline of cock-fighting it is hard to locate standard-bred strains of *Aseel*. Where the rain fall is very heavy Rhode Island Red is popular while in dry and hot areas with light and sandy soil such as in Rajputana, Leghorns thrive well.

Methods of Production.

Poultry keeping in India is usually an adjunct to other pursuits. The fowls are kept under primitive conditions of housing. feeding and management. Except on Government farm, practically all the breeding of chicks is under hens. The village hen is an ideal mother, small and active and seldom injures the chicks by trampling on them. Depending upon its size a hen can breed 15 to 20 chicks. During the day they roam about in search of food with the mother. The production costs are very low. They are fed extra supplements of grains only during the first few weeks and thereafter are allowed to run about in search of food. Losses in rearing from accidents, mal-nutrition, diseases and predatory animals are about 50 per cent. Broodiness and low egg production characterise the village hens.

Incubation.

Artificial incubation is mostly practised on Government farms. The total number of mammoth incubators in the country is only about a dozen. Fifty egg-sized, kerosene oil heated incubators are in common use. In india hatcheries are unknown. Under normal conditions the villagers obtain 75 per cent hatchability with fertile eggs. In the villages generally there is no incentive to hatch eggs and they are sold to hawkers for any price. The conditions vary widely from the North to South (Distance 2000 miles) affecting hatching results. Best results in breeding are obtained from November to March in Northern India and May to

September in South. In Northern India chickens hatched in January and February come into lay in September but those hatched from April onwards take longer time to mature due to the set back during the hot summer months.

FEEDING.

In villages very little is spent on feeding poultry as the birds usually thrive on fallen grains, insects and worms. In towns and cities poultry keeping is rather difficult as most of the food grains are controlled and so far poultry have not been included in the list of livestock for which rations are issued. In specialised government or private farms birds are usually fed all-mash, but there also, the development work is being handicapped by feeding difficulties. The two essential commodities, yellow maize and wheat bran are in short supply and the paucity of animal protein supplements is great. Offals from slaughter houses are popular in poultry rations. Production of fish meal is meagre and it is not within the reach of villagers. Oil cakes have been used to supplement the poultry rations on large farms but since they are also used as manure, it is difficult to get even these. During the summer months, the birds hardly get any green supplement and therefore the losses amongst rearing stock are fairly heavy. The provision of calcium supplements in poultry ration is confined to specialised farms In villages calcium supplement seems hardly necessary in view of the low egg production. Salt is fed to poultry only on scientifically run farms and its role in poultry nutrition is not generally realized. Besides the inherent genetical characteristics determining egg production, the poor nutrition of the average village hen is to some extent responsible for its low egg production.

HOUSING.

In villages the birds, if housed, are usually over crowded in mud chambers or wooden cases during night. These houses provide a certain amount of protection to the birds from their several enemies. Another method is to shut the birds under bamboo baskets about three feet in diameter. Heavy stones are placed on the top of the basket to prevent attacks by jackals and cats. In some villages the fowls roost on the walls of houses. On model poultry farms chicks are reared in permanent or portable brooder houses with arrangements for artificial heating. After brooding the birds are kept in houses made of angle iron bar covered with wire-netting placed under thatched roofs. In urban areas special poultry cages for housing birds are used and the backyard poultry keepers are adopting the improved system of housing birds. The use of laying battery is also becoming popular in cities.

EGG PRODUCTION.

The village hens ordinarily lay about ten eggs in each of the four or five clutches during the year, the average weight of the egg being about an ounce. In India the natural period of laying and hatching for birds is usually the spring; i e. during February and March. In most of the areas, excepting the South, the peak production occur from January till about May. In Cochin and Travancore, which are in the extreme South, the peak occurs in May coinciding with harvesting of paddy crop. Conditions in the North improve from August onwards and the production rises gradually. Fall in production occurs during the monsoon.

Experiments conducted on government farms with a view to increasing the egg production of the non-descript Indian fowl by proper feeding, management and diseases control, have shown that the output per hen could be increased by about 100 per cent. About 50 per cent of the layers have to be replaced every year due to mortality. Producers send to the market

about 60 per cent of the hen eggs and 80 per cent of the duck eggs. Preparation of frozen, liquid or dried egg is not made in India except under experimental conditions. A Central Laying Trial is expected to be organised very soon.

MARKETING.

Under the present system of production most of the hens are given free range in search of food and many eggs are lost due to various causes. A major portion of the eggs marketed are soiled and this lowers their keeping quality as well as the price. The eggs produced in villages are purchased by dealers who visit at irregular intervals. The eggs are collected generally in baskets, with or without packing material. The egg consumption is mostly confined to the towns and cities. Large numbers of eggs are assembled at the weekly markets and a good proportion of them become stale before they reach the consumer. Whole-sale poultry and egg markets in cities are but few. Usually the eggs are sold wholesale on the platform of railway stations on arrival of the trains The problem of egg marketing is now receiving attention both from the Central and State Government.

Egg grading stations have been established at some centres where eggs are marketed according to weight and quality. During the World War II the Marketing Department in the Uttar Pradesh organised a large defertilisation centre handling thousands of eggs daily and thereby conserved the quality of the eggs before supplying to the Defence Department. Steps have been taken to prescribe "Agmark" grades indicating the quality of the eggs produced in the country.

The average retail price of table edgs is Rs. 1-8-0 per dozen while table fowls are sold at about Re. 1 per lb. live body weight. The preservation of eggs or the use of chemicals as preservatives is not widely practised in India. The prices of eggs and fowls vary from place to place. Fattening of table fowls and sale of dressed chickens are not commonly practised. Dealers judge the quality of eggs by specific gravity tests or by candling through primitive lamps or against sun light. Since the majority of the producers run the cocks and hens together all the year round, the eggs produced are mostly fertile and during the hot months the bulk of the losses is due to the development of the embryo inside. The quality of eggs marketed in the cooler months is fairly satisfactory but to conserve the quality during the summer and monsoon months by producing only infertile eggs is difficult. Government therefore propose to open defertilisation centres in all the areas of concentrated production.

ORGANISATION.

Various State centres have carried out investigations on the value of several breeds and crosses of poultry for egg production. Model poultry farms have been set up for providing training in poultry keeping and supplying purebred stocks to the public, but the supply is far short of demand. Similarly, the supply of purebred cockerels for improving the village fowls by up-grading is relatively small in proportion to the total fowl population. Some education in poultry husbandry is imparted in veterinary and agriculture courses while advice on poultry diseases is tendered by the veterinary departments. Special problems are referred by the State Veterinary Officers to the Indian Veterinary Research Institute A Poultry Development Officer and a Poultry Disease Investigation Officer have been appointed in each State as the first step in developing the poultry industry. Some missionary institutions also have introdneed the improved fowls in selected villages and the results achieved are encouraging.

Poultry keeping in villages is being developed as a profitable cottage industry.

Twelve or sixteen weeks old chickens are usually distributed to the poultry keepers as experience has shown that supply of baby chicks or hatching eggs has not gone far in stepping up the egg production in the country.

The demand for poultry and eggs from the Defence Services shot up during World War II and the village flocks were being depleted as attractive prices were being offered. The problem of increasing the production therefore received the earnest consideration of the Government of India and 16 Military Poultry Farms, each with a capacity of 10,000 birds, were organised at various places. Prior to war the prices of eggs were too low and it was unprofitable to keep birds on a commercial scale. It is now possible to run poultry farms on commercial lines provided only a portion of the eggs produced are fertile and sold as such.

Under the Grow More Food Campaign, development and research schemes are being subsidised by the Indian Council of Agricultural Research in several of the States with a view to up-grade the mongrel stocks by introducing pedigreed sires of Rhode Island Red and white Leghorn. In one or two States Poultry Development Blocks in Community Project Areas have been set up. To effect improvements in Indian poultry, generally the indigenous hen is up-graded with purebred males or the indigenous fowls are replaced by purebred birds, the former being the quickest method for increasing egg production.

INDIAN POULTRY CLUB.

The Indian Poultry Club, Izatnagar, U.P. was founded by private poultry enthusiasts in 1910 with the object of co-ordinating the activities of all those interested in the the improvement of poultry in India and promoting the breeding of purebred stocks by holding poultry shows in several parts of the country. The Indian Poultry Gazette, the official organ of the Club, is published quarterly and provides information on all aspects of poultry production, and marketing in popular language.

ALL INDIA POULTRY SHOWS.

Under the auspices of the All India Cattle Show Committee subsidised by the Government of India, annually an All India Poultry Show is being held. It attracts numerous farmers and poultry fanciers. The Show represents a nation-wide educational project to increase the acquaintance of breeders and to facilitate the maximum distribution of best quality of poultry for breeding purposes.

RESEARCH.

For many years poultry enthusiasts keenly felt the need for a central institute for conducting organised research into all aspects of poultry science. The Royal Commission on Agriculture in 1927 recommended the establishment of an institute for Poultry Research. The Government of India accepted this recommendation and the Poultry Research Division at the Indian Veterinary Research Institute, Izatnagar, Uttar Pradesh, was established in 1938. The Section conducts fundamental research on poultry breeding, nutrition, physiology marketing, and processing of eggs and on poultry diseases. A well equipped and extensive farm of 40 acres with well built brooder houses and accommodation for 4000 layers is attached to the Division. Large scale hatching is done in electric mammoth incubators of 4224 capacity. With its rich library and trained technical staff, the Division provides useful advisory information to the poultry keepers on all aspects of poultry husbandry. Annually from October to April an advanced course of training in Poultry Husbandry and Poultry diseases is provided for 20 students.

In the following are given some of the

results of practical value obtained during the last decade through work carried out at the Indian Veterinary Research Institute, with help whenever possible from the field officers in charge of the schemes sponsered by the Indian Council of Agricultural Research.

Breeding :—The work has been confined to White Leghorn, Rhode Island Red, Barred Plymouth Rock, Black Minorca, Australorp, indigenous fowl and grading of the indigenous hen with the above imported breeds. Our village hen is a small bird and by selective breeding over a number of generations an improved strain has been evolved whose average annual egg production is about 150, while individual hens have laid up to 234 eggs. The size of the egg has also been considerably improved. The indigenous strain is much less susceptible to extremes in climate and can stand up exceptionally well to hot weather conditions.

A pen of Improved Indigenous fowls, evolved at the Division of Poultry Research, I.V.R.I. Izatnagar. (1939—1954).

Grading :—In the States the grading-up of low production stocks of village fowls by cocks of the exotic breeds, such as White Leghorn and Rhode Island Red, has been proved to be the economic method of improving an ordinary farm flock as regards body size, egg production and egg size and elimination of broodiness.

Village extensive work :—The high rate of production of exotic breeds of poultry is not maintained in villages, unless the birds are adequately fed. Losses from wild animals and wild birds have been very high among chickens given free range. The practical value of preventive inoculations has been realised by the villagers.

Nutrition :—The nutritional studies on growing chickens and laying hens have been devoted to discover the best and cheapest methods of making good the deficiencies which are found with typical cereal rations Studies into the improvement of the poor Indian human dietaries through supplements of eggs have also been made.

Digestible Co-efficients and biological. values :—A valuable contribution to the science of poultry nutrition has been made by standardising a method for determining the digestibility co-efficients and biological values of proteins in poultry rations. The methods has proved very useful for determination of the nutritive value of common Indian feeds for the formulation of economic rations for poultry.

Cow manure :—In view of the searcity of animal protein supplements and their relatively high cost, investigations have been undertaken to study the food value of cow manure as a substitute for animal protein in improving cereal diets. The results revealed that cow dung, provided it is suitably processed, can be fed to fowls with beneficial results and thereby replace a certain percentage of the cereals.

Substitute feeds :—Certain foods which are generally wasted such as mango seed, have been found suitable for replacing 20 per cent of yellow maize in poultry ration.

A search by the chemical composition of some of the substances revealed that the husk of lentil and green gram and dried leaves of Margosa (*Azadracta indica*) have a composition approaching nearly that of wheat bran With the excepsion of chicks receiving Margosa leaves. all the other chicks grew satisfactorily.

Technology :—Cock birds are allowed to run with the hens in the villages throughout the year, and one of the major causes of egg spoilage in India is the development of embryos in fertile eggs, especially during the summer months (April—July) when the eggs become inedible after about 48 hours storage. It is estimated that over a third of the country's output of eggs is lost due to embryo development, staling, brekages, moulds and bacterial contamination. Methods have been employed greatly to minimise these losses. These are defertilisation, lime-sealing and oil-dipping. Eggs have also been thermostablished by immersion in well stirred oil at 130F for about 30 minutes.

In canning chickens, the use of lacquered cans is preferred as palin tin can develop dark spots on storage due to the action of sulphur of the meat on the iron of the can The addition of common salt greatly helps in the development of metallic taste even in the contents of the lacquered cans. The common salt and spices may therefore be added before serving on table.

Studies were also made in the composition of carcasses and it was found that cockerels had higher percentages of feather, head, feet, blood, neck and giblet than pullets of the same size. The yield of raw meat from cockerels of 3 lb. weight was about a third of live weight. Proper tendering of the carcass, by hanging at 60F for 94 hours greatly enhanced the quality of the canned product.

Poultry Diseases :—In order of importance the most important diseases are Ranikhet (or New castle) disease, fowl pox spirochaetosis, coccidiosis of chicks and coryza. Infectious bronchitis and Infectious laryngotracheitis, from the available records, are as yet unknown in this country, while Avian Leucosis Complex is slowly becoming more and more important. One strain at least has been successfully passaged serially through day old chicks and the infecting agent appears to be a filterable virus. Fowl cholera is but rare amongst the fowl population but all the more serious to the duck industry The existence of carriers has been brought to

light. Cases of Tuberculosis have been recorded but no farm is confronted with this as a problem particularly in the North. Tick infestation is great and perhaps at present is more serious than Newcastle disease. Apart from chemotherapeutic measures, experiments are under way to produce specific embryonated vaccines. Salmonella infections, both motile and nonmotile have recently been reported from specialised farms presumably following imports of improved stocks.

The chick embryo vaccine for the control of Newcastle disease, first elaborated in this country, is now a recognised biological and from government farms only chickens 8-10 weeks old protected against Newcastle disease and fowl pox, are distributed for the development of poultry industry. Fowl pox vaccine is prepared mostly from the pigeon pox virus. However, in certain regions egg propogated fowl pox virus has also been used for vaccination as this confers more durable immunity. The spread of Salmonella infections is being controlled by blood tests and by the destruction of the reactors.

The first field case of *Plasmodium gallinaceum* was recorded in India by this Institute. The disease has been reproduced experimentally by blood inoculations.

The presence of vitamin A deficiency in chickens at several large farms during summer months was confirmed by assaying the vitamin A content of liver from chickens showing typical lesions of the condition in the eyes and throat.

A rare case of early conception in a heifer calf

by

K. T. RAO and A. LAKSHMINARASIMHAN,

Department of Anatomy.

A female buffalo calf dissected by the students on 22—9—1954 showed enlarged horns of the uterus. All the teeth of the calf were temporary and it was less than a year old. On examination, a foetus with well formed features was found in the right horn of the uterus. Both the horns were enlarged, the right one measuring 13 inches long and 4 inches wide in the middle and the left one 11 inches long and 3 inches wide. Though the foetus was in the right horn, the other end of the chorionic sac extended into the left horn through the body of the uterus and hence both the horns were enlarged. The crown rump length of the foetus was 10 cms., its approximate age being 8 to 10 weeks.

The left ovary was very small and infantile while the right ovary was of the size of a bean measuring 16 m.m. in length 12 m.m. in breadth and 6 m.m. in thickness. The right ovary on sectioning showed the presence of a well developed corpus luteum of pregnancy measuring 11 m.m. in length, 5 m.m. in breadth and 3 m m. in thickness. The histological section of the right ovary not only revealed the structure of the corpus luteum of pregnancy, but also many primary graffian follicles. Thus, it was established that the ovulation took place from the right ovary, though the calf was less than a year old. The external genitalia of the calf was small and infantile the vaginal canal being only 2 inches long.

Acknowledgment:—We thank Dr. D. Mariappa, Professor of Anatomy for his guidance in preparing this note and the College Artist for the photographs.

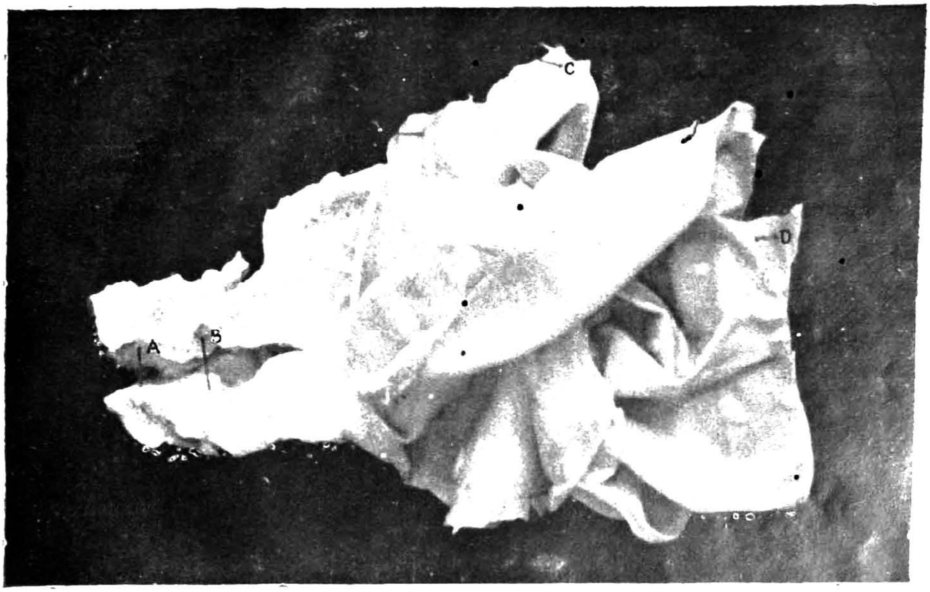


Fig. 1 : Genetalia of the Calf cut open. A. Vulva; B. Vagina; C. Left horn; D. Right horn.

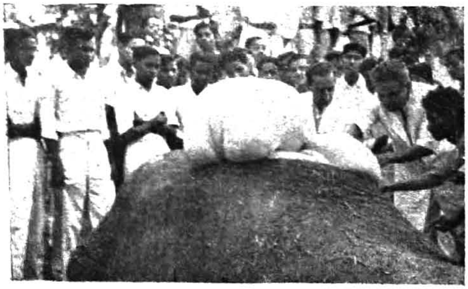
Fig 2 : Foetus with the Chorionic Sac.

Fig 3 : Microphotograph of the Corpus Luteum showing Luteum cells.

DISSECTION OF THE ELEPHANT

Carcase of the Cow elephant No 46 that died at 5 a.m. on 27-8-'54 in the Zoological gardens Madras.

Opening the abdomen



Dissection in progress.

Injection of the foetus.

The Ecology of Helminthic Infections

by

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ECOLOGY relates to the responses of an organism to its environment, and helminths, like all other forms of life have to contend with favourable and destructive forces while inside the host or in the open. Most nematodes have a free-living larva lurking in soil, grass or water (strongyles), some others have only their eggs exposed similarly (Ascarids), and the rest none at all because of the agency of an arthropod vector (filarids). The fluke tribe (Trematoda) depends on the gastropod mollusc for transmission but also has the miracidium and the cercaria as free-living larval stages. The Cestodes, on the other hand, invariably utilize a crustacean, insect or arachnid intermediate host.

Environmental influences on the larval stages of the worms and on their vectors are of great concern to a parasitologist whose purpose it is to devise control measures. The eggs and larvae are subjected to external climatic conditions for variable periods according to the time required for development to the infective stage, or till they are ingested by the definitive or intermediate host. It is on account of this that a life-history study is considered to be of fundamental importance in prophylactic control.

When moisture, temperature light, soil and herbage are intimately related to the survival of the larval stages, or the vectors in the open, prevalence and distribution of the parasites are profoundly affected by any fluctuation in them. In the case of strongyloid worms, the larvae develop in the faeces on the pasture where the infective stage is reached under optimum conditions. The micro-climate around them should be suitable i. e., providing humidity, moderate temperature and subdued light. They subsequently migrate from the faecal mass, in dew or rain, on the vegetation or on the soil. This migration is an important feature to be understood by farmers, as only then could they regulate the grazing of their livestock. Rotational grazing, now well established in the west, is based on these principles. To mention but a few outstanding of them, the infective larva easily ascends in the presence of moisture, quickly runs away from intense sunlight and seeks protection at the bases of grasses. The distribution on the soil is both horizontal and vertical for which a sandy soil is more favourable than a clayey one. The *Structure* or kind of vegetation is relevant too. The larvae experience considerable difficuty in climbing the stems of herbage plants which have strong hairs, ridges, and thorns which prove obstructive, while in plants with smooth stalks progress is rapid. Again, the *texture* of the herbage also matters. A thick and close turf is likely to afford more protection and therefore harbour a larger number of larvae than one which is tall and sparse Moreover, in the former case, animals will concentrate in a spot to a greater extent in an attempt to have more food, thus increasing the intake of larvae. The resistance of the infective larva to drying is however extraordinary. Alternate drying and wetting, as frequently obtains in nature, have been found to prolong the life of larvae of *Oesophagostomum radiatum* for a number of days. Biological studies to evaluate all these inter-relationships in respect of many other nematodes, under Indian conditions, are necessary and ought to be undertaken. The eggs of *Ascaris vitulorum* have been observed to be more resistant after embryonation than earlier, and in the

presence of sufficient moisture have lived for nearly a year. The effect on them of other weather canditions is known and a system of sanitation in cattle-yards is to be evolved therefrom. Ploughing and resting of pastures will have to be related to the survival of these eggs and larvae in under-aerated regions. It is difficult to kill the eggs or larvae by chemicals without destroying the plants themselves or impairing the animals' health. Therefore, grazing hygiene founded on biological principles seems to be the only solution.

As regards nematodes having an indirect life-history, the flukes and amphistomes, and the tapeworms, attention has been directed to the vectors. Mosquitoes and fresh-water crustaceans (Cyclops) as transmitters of filarids and cestodes, are being controlled in more ways than one. Gastropod molluscs of the genera *Limnaea* and *Indoplanorbis* are guilty of spreading fascioliasis and amphistomiasis of livestock and their elimination is proving to be an engaging study As inhabitants of fresh water ponds they have to adapt themselves to environmental factors such as pH, salinity, and associates—plant and animal. In a tank, the snail is only one member of an animal community and subject to predatory attacks of enemies like larvae of the dragon-fly, fire-fly and water-beetles. In my study of these two snails, I have found them to be a favourite diet of fire-fly larvae. The fish, *Courami*, feeds voraciously on eggs and young of the snails either directly or with the weeds. The flora surrounding the tank has a bearing on the life of the molluscs, as fruits of certain trees eg., *Balanites*. *Sapindus*, *Acacia concinna* and *Caesalpina coriaria* can be lethal to them when allowed to soak in the water. The miracidia and cercariae. among the larval stages of a trematode. have only a short duration of free-swimming life. Cercariae of *Fasciola* and amphistomes ultimately encyst on plants at the edge of the water. The encystation has been imagined to be indiscriminate, but my observations with an amphistome cercaria—*Cercaria fraseri* —descredit it. Many kinds of grass blades were thrown into a jar for the cercariae to encyst, but a certain type was avoided by them. The explanation for this selectivity, was found in that this grass alone had blades with a rough surface caused by the presence of closely arranged, sharp hairs, as in the *Durbah* grass, and the cercariae could not settle on the leaf-surface. Is it ambitious to say that if this phenomenon is found to be true in the case of others, there would be a possibility so to speak, of disappointing encysting cercariae by growing such grasses around tanks ?

The intermediate hosts of tapeworms are mostly arthropods, and I shall remark about the bionomics of the oribatid mite that has been implicated in the development of *Monieza*. These free-living mites thrive exceedingly well in grasslands, detest light, are quickly killed by drought, and ascend grass blades immediately after a rain. During the day, they take shelter on the superficial layers of the soil, and therefore the nature of the soil, and vegetation largely govern their occurrenee. Being slow in movement, they were never present on tall grasses. Crops that arrest their progression will facilitate diminution of *Moniezia* infection·

The foregoing observations emphasize the important part biological studies play in the control of helminthic infections. The links between husbandry practices and helminth parasitism have proved to be manifold and altogether unexpected. It is suggested that studies on epidemiology ought to be undertaken by workers all over the country so that they could be able to advise on the management of the stock, on pastures and in stalls, with a view to avoid losses due to worms.

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Dissection of the Elephant

by

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Department of Anatomy.

ON August 27th, Dr. P. Rama Rao who was treating a sick cow elephant (which was on its way to Andamans from Mysore and was stationed at the Madras Zoological Gardens) informed us that the elephant was dead at 5 a.m. that morning and the Department of Anatomy can take charge of the carcase, if desired. As the dead elephant was said to be pregnant, it was immediately decided to take charge of the carcase so as not to loose the rare chance to secure an elephent foetus.

The Professor of Anatomy and the Principal visited the Zoo immediately and decided to transport the carcase on a truck to the Anatomy Department for dissection. A crane from the Government Transport Company was engaged to lift the carcase into the truck but unfortunately the crane failed to lift the body. When all the initial efforts to cart the body failed the only alternative left was to dissect the carcase in the Zoo premises itself. Hence, the Corporation Health Officer was approached for the necessary permission who, however, wanted some more time to consider all the implications of our proposal.

As the decomposition of the dead elephant had already set in we wanted to avoid any further delay and so another effort was made to transport the carcase to the College At 2 O'clock about 50 mazdoors were given a contract to transport the body to the College, but they could not even move the carcase a little in spite of all their efforts which they continued till 10 p.m. in the night. Meantime, the Corporation Health Officer had kindly given the necessary permission to dissect the carcase in the Zoo compound itself. So at 10 p.m. when the mazdoors abandoned the task, the Principal and the Professor of Anatomy who were there all the time decided to dissect the body next morning.

On 28th August, the staff of the Anatomy Department with all the required instruments and appliances went to the Zoo at 8-30 a.m. The students of the College were also allowed to see the dissection by the Zoo Superintendent. First the blood smears were taken and sent for examination to the clinical laboratory of the College. When they were declared negative for Anthrax, the dissection commenced at 9-15 a.m. The animal was lying on its right side and big incision was put on the left abdominal wall and the cavity laid open. 40 buckets of fluid was removed from the peritoneal cavity and it was a job for the staff to pull out the unending coils of the bowels from the abdomen. Finally when the uterus came into view to our great relief, a foetus was felt.

The whole uterus with the foetus was removed to a separate place and the foetus was laid open with all the membranes intact. Immediately preservative was injected through the umbilical artery of the foetus under pressure. It was 1 p.m. The foetus was a female one, about 12 months old and though the mother had died about 32 hours earlier, it was in a fairly good condition.

The carcase was then dismembered, loaded in a truck and brought to the College compound. By the time the last trip was made and we left the Zoo gardens it was 7 p.m.

On 29th Sunday, a pit was dug in the College compound and the remains buried. After about 6 months the bones will be recovered and a skeleton of the elephant will adorn the Anatomy museum.

The foetus which measures 82 c ms. in crown rump length is preserved in a big tank in 30% Glycerine and at present it is subjected to detailed dissection and study.

My Student Days in the Veterinary College

by

Sri M. Anant Narayana Rao.

The happy news of celebrating the Golden Jubilee of our College was conveyed to me by the Director of Animal Husbandry with a request to send a message or write an article to the commemoration volume to be published. It is a rare privilege given to me to write an article and I propose to say something of the College days nearly half a century ago.

I joined the College on the 5th February 1908. I was a scholar selected and sent by the Coorg Administration. Mine was the fifth batch of students that joined after the inception of the College. In those days the course of studies extended over a period of three years and each year's studies were from January to December. In those days there were not many motor cars and the wards of the Hospital were more than full. We were taught less of theory but more of practical work and this type of teaching developed in us the powers of observation, etc., and initiative.

The College and the Department were in their infancy, so to say, and there was one officer at the head of both these. Colonel Gunn was then the Principal of the College and Superintendent of the Department as well. It was in 1909, during my second year of study, Mr. D. Aitchison was appointed as the whole-time Principal and he taught us Principles of Horse Shoeing in the second year and Medicine in the final year. He was a thorough gentleman and a very strict disciplinarian.

Our profession had not then caught the imagination of the students and the number of applications for admission was small. On the day I came only a dozen students were awaiting admission. Colonel Gunn came to interview us and we were all asked to stand in a line, like soldiers, on the lawn near the College. He shook hands with each of us and spoke to us and said that all had been admitted. We had to begin work from the very next day after admission. The Hospital hours were from 7 to 9 a. m. and the Classes were held between 1 and 4 p. m. We had compulsory gymnastics clsses and sports as well. The gymnastics instructor maintained a register of attendance. In the College compound there were only three or four buildings and a tank on the eastern end. The main building was a very beautiful building of Saracenic architecture and some distance to the north of this was a cattle ward and a dissection room. To the east of this was a two storeyed building, called Dobbin Hall, which served as a Hostel. The strip of lawn to the west of the main building was our play-ground then. The present play-ground was reclaimed about the year 1917. Our classes were held in the rooms on the ground floor of the main building and on the top floor were Offices and Museum. The Staff consisted of an Assistant Principal (gazetted) and three Lecturers (non-gazetted). The Assistant Principal was virtually the Head of the College till 1909.

On the morning of the 6th February the newly admitted students came to the Hospital for work and their attendance was taken in the Horse Ward. In those days the Horse ward and the Dog ward were located in the S. P. C. A. premises. The Central Pharmacy was also located in the Horse ward. The students of the respective classes were divided into three batches for work in the wards and some of the first year students were sent to the Pharmacy to learn dispensing work. The third year class students, or the Senior

students as We called them, were in charge of the patients and the rest of us had to work under them. Every month we were transferred from one ward to another so that each batch worked in the same ward at least four months in that year. The Lecturers and the Assistant Principal were in charge of the respective wards.

On the very first day of my attendance in the Hospital I was asked by my senior student to irrigate the back tendons of a couple of horses. In those days 'shorts' were not in vogue, and as the then fashion would have it, we wore stiff collars and stiff cuffs on our shirt sleeves. I was shown how to irrigate with a rubber tubing attached to a tap. The rubber tubing that was given to me was an old one and had some pin-point perforations with the result the water under pressure spurted out from these apertures and gave me a shower bath. I could not leave my job as the discipline was strict. By the time I finished irrigation on two horses I was completely drenched, my collar and cuffs got soft and crumpled and my dress full of mud. When I came away from the place the students gathered round me and had a hearty laugh to my discomfiture. All that I could do then was to join with them in their hilarity and later asked them if that was their way of 'ducking' a fresher.

Later I found there was a new rubber tubing which was hidden from me. For some little time the first year students were targets of practical jokes but when they, in their turn, started retaliating such jokes dissappeared. I must note here that all this was done in a very friendly spirit and it developed into a healthy type of affection and comradeship in us.

The work in the Hospital was considerable and that gave us opportunities in developing the power of correct diagnosis of diseases in animals. We had no laboratories then and we had to solely depend on the powers of our observation, palpa tion and the like for clinical diagnosis.

The class rooms were provided with punkahs and not electric fans as we have now, because there was no electric supply then. For your information I may say that a *punkah* was an ornamented bar of wood to which was attached a mat the border of which had a red cloth stitched into it. This was pulled by a *punkah* puller with the help of a rope running over a pulley The *punkah* puller was a sleepy chap and we all thought that this type of work was a good antidote for insomnia! Only the gazetted officers had the privilege of the use of the *punkah*. Since we were only a few students in the room we did not feel the necessity of a punkah.

We had no written examinations then, but only oral. Every month we had oral examinations and the final examinations either for promotion or for diploma were conducted by a Board of Examiners appointed by the Government of India (Some years later the Board of Examiners were appointed by the Government of Madras).

In our class rooms there were blackboards and strangely enough there was neither chalk nor a duster! On some occasions, I may say on rare occasions, the senior lecturer who taught Anatomy and Physiology, produced a piece of chalk from his pocket and wrote on the blackboard. Often he had to rub off the chalk with his fingers and inadvertently ran the fingers over his forehead or chin leaving marks of chalk there. That sight evoked peals of laughter in the class. The lecturer would himself laugh and then wipe his forehead or chin with his kerchief. The relationship between the teacher and the students was very cordial and the small liberties the students took were taken by the lecturers in a sporting spirit. The

students respected the teachers and the discipline in the College was very good indeed.

The gymnastics instructor, a good old man well versed in Indian gymnastics, fencing, and wrestling, was quite an Oriental type of man who believed that each student should be very obedient to him. The obedience according to him, consisted in our obeisance to him. Some of us, freshers, failed to do this on a certain evening, and we were marked absent for that evening. Later the Assistant Principal asked us to muster in his room and he told us that by way of punishment we have been suspended from attending classes for a week. We came out of his room and at my suggestion we all left for Vellore to see the Fort and the Police training school. It seems the next day, for some reason or other, his oral orders were cancelled and a notice was pasted on the board that we should return for work. We were not aware of this new order and when we returned after a week we were not admonished No such suspension orders recurred since.

During the second year of our studies we had to do Anatomy in addition to other subjects. Each week we had to do dissections on the carcass of a horse which was the model to which other animals were compared. Every week an old decrepit jutka pony was sacrificed for the Operative Surgery class for the senior students, and the next day the carcass was used for dissections. This carcass would be semi-putrid by the time we began to dissect it. As we went on dissecting it from 12 noon to 4 p m., the putrid smell increased and for at least 24 hours after the class was over our noses lost the sense of smell temporarily. Sometimes the lecturer was so kind as to bring with him a packet of 'Scissors' cigarettes or 'Ogdens Ruler' cigarettes. In those days the former cost ¼ anna for a carton of ten and the latter ½ anna! Cigarettes were very cheap and the tax on those and on some other articles had not developed into a 'kamadhenu' as described by a responsible person some years ago. We had read about a kamadhenu in our Puranas but we have now an experience of it. As days passed this kamadhenu has waxed and naturally every purchaser of goods vexed! Be that as it may, let us go back to our story of cigarettes. The cigarettes were distributed to such of those students who would light them and blow whiffs of smoke to deodorise the atmosphere in the dissection room. The lecturer himself was not a smoker, but his kindness and pity on our noses, including his own, gradually made us purchase cigarettes for use in the dissection room as well as outside. This was the beginning of our homage to that fragrant weed called tobacco. But fortunately now kamadhenu has again come to our aid and our homage to cigarettes is on the wane! This distribution of cigarettes came to an end when the lecturer went to England for a short P.G. Course.

In the final year the lecturer in Medicine, more or less, dictated to us whatever he had to say from his notebook. While dealing with bacterial diseases he drew the shape of a coccus, bacillus or a spirillum on the attendance register with his propelling pencil at which we looked with admiration—the blackboard was there only as an ornament.

I remember there was only one microscope and that was with the senior lecturer in the Dog ward. He had just then returned from England and was very eager to show us micro-organisms under the microscope. This he did on behalf of the lecturer in Medicine and it was a great help to the students.

I have already referred to the type of examinations held and the marks obtained by each student were taken into account

for a rank in the class. This ranking helped in awarding medals or prizes to the best student in each subject. In the final year a gold medal was awarded to the best student. I was fortunate in scoring top marks in most of the subjects in each class and I became the pet student of the teachers on that account. I must mention an incident which happened in the second year of my study. One student from the Bombay Veterinary College sought admission in the second year class. He was a South Indian and therefore he was granted admission. There was keen competition between him and me for the first place in each subject. Eventually I managed to top the list and we were promoted to the final year class in 1910. Early that year a petition was submitted to the Revenue Board, under whose control the College then was complaining there was partiality shown in awarding prizes etc., to the detriment of really deserving students. This paper was brought to the class room and was read out by the Principal remarking that this must have been the work of one who aimed to get many prizes but did not get any. The out come of this petition was that from 1911 the custom of awarding medals or prizes was stopped. The jealousy of one student was the cause of the stoppage of prizes and medals for years to come! This was a good lesson to us all not to be jealous of others.

The Board of Examiners consisted of a President and Members who invariably were top ranking military men from the Army veterinary corps. They could not be satisfied with bookish answers nor did they appreciate verbose answers. Such students whose answers were to the point and in as few words as possible scored high marks. Only such students who knew the subject well could answer to the point. The examiners had no bias of any sort and he that answered well always scored top marks I remember one of the members, Col. Farmer, who was a hard task master. He liked to see the examinee well dressed and smart in appearance. If one went up to him with his hair not properly brushed he would send him away asking him to return after combing his hair. He was the one who always wanted a practical type of answer. He usually examined in subjects like Handling of animals, Soundness of animals, and Operative Surgery. The students were usually informed early enough who the examiners were so that they could know the type of answers required from them. The students could then meet the examiners on their own ground as it were.

The very next day after the examinatins were over the Board met and announced the results. The students that passed the final examination had to appear for a riding test conducted by the Principal. During this test everyone of us could not help laughing at the performance by the candidates. Very often some of them fell off the horse only to see the horse walking serenely into the hands of the syce Perhaps even the horse enjoyed the fun in his own way! Diplomas were given to the graduates at a prize distribution ceremony at which some high ranking officer of the Government presided. During this function medals, prizes and diplomas were awarded to the successful candidates. Besides this we were having a College Day celebration each year.

I remember well the day in March 1911 when H E Sir Arthur Lawley presided over the prize distribution ceremony. Since I was a recepient of some medals and prizes the Principal wired to me to come and be present which I did. I had to go to the dias often to receive the the prizes etc. and you know how the invitees react to such a sight At the end of the function His Excellency called me on the dias and after speaking to me some words of advice he asked me to work hard for the Department and thus justify the

prizes that I had won. I never forgot these words and I may say with humility that I worked as best as I could till my retirement. That very day of the prize distribution the Principal asked me if I would accept work in the College but as I was a Coorg scholar I told him my inability to do so. He however succeeded in August 1915 in getting my services transferred to the Madras Veterinary College. This gave me the chance to serve my Alma Mater as best as I could till I retired. I wish the Madras Veterinary College all that is best.

Animal Wealth of India

by

B. UMANATH RAO, Final B.V.Sc.

Nature has endowed our country with a magnificient asset in its Animal Life both domesticated and wild. India's animal life, in its interest, its beauty and its marvellous variety compares favourably with that of any other country in the world.

Among the domesticated animals, cattle are the most important though we have other species of animals. The approximate number of the different species being the following.

Cattle	150 Millions.
Buffaloes	43 ,,
Horses and Ponies	1½ ,,
Sheep and Goats	87 ,,
Pigs	37 ,,
Donkeys	1 ,,
Camels	1 ,,
Dogs and cats	Not known.

India being mainly an agricultural country, cattle and the wealth they produce plays a definite and an important role in the economic life of our people. It is estimated roughly that the annual contribution by livestock is an enormous sum of Rs. 3,500 Crores. This amount when compared with the underdeveloped industrial sector looks striking indeed. The figures being :—

Iron and Steel	50 Crores.
Cotton and Yarn	150 ,,
Coal	500 ,,

Our country can well be proud of having the largest number of cattle for any country, forming nearly 30% of the world population. But, we have to be ashamed of the present state of its quality compared with the leading dairy countries. While on an average, the Indian cow produces 450 lbs. per lactation, a cow in New Zealand produces 4,500 lbs. of milk. This is the very reason why we are unable to supply even 5½ ounces of pure clean milk per Indian to-day. We are confident that with scientific methods of selection, breeding and management, Indian cattle can be made to compare favourably with any other in the world with regard to production of milk or for work. Thus, the ideal food 'Milk the Nectar' for man will be able to bring health, wealth and happiness to our Nation.

The important Indian milch breeds are the Sahiwal, Sindhi, Gir and the Murrah buffalo. The dual purpose breeds are the Ongole, Hariana, Tharparker and Kankraj The draught breeds are the Kangayam, Hallikar and Amritmahal

India's wild life has been a source of irresistable attraction to sportsmen from far flung corners of the world from time immemorial More than five hundred different species of mammals are found in our country and thirty of them are mentioned by name in the Samhitas (Vedas) The earliest record for the protection and preservation of wild life is in the edict of Asoka in 3rd centuary B.C. The most important and interesting among them are the following —

Elephant · Proboscidea (Elephas maximus indicus). Associated in India from time immemorial with the splendour of our princely pagentry, defender of kingdoms and beast of burden in the forest. Mysore is world famous for its elephants Indian elephants differ from African in being shorter in height. the trunk ending in one lip, the presence of

four nails on the hind foot, the Molar teeth being smaller and with about twenty-seven ridges. The African species is larger, its trunk ending in two lips, it has three nails on each hind foot and its molar is larger with about eleven ridges.

Lion : 'King of the Forest'. Only a few are found in Junaghad State. Africa is more famous.

Tiger : The animal emblem of India, is considered to be the greatest prize of the hunter and is one of the most formidable fighting machines among the creatures of the world. Found in Bengal, Assam and Uttar Pradesh.

Chettah : Fastest among the animals averaging about 70 M.P.H. are almost getting extinct.

Rhinoceros : Indian type is supposed to be the largest species of the genus now inhabiting the world. Indian Rhino is peculiar for it has but one horn and the hide is thrown into great shield like plates covering the fore and hind limbs African species is slightly smaller in size, has two horns and no foldings of the skin.

The Wild Indian Buffalo : (Bubalus Bubalis). The wild ancestor of Buffalo is still found in the great grass jungles of Assam and stands 6 feet high at the withers. A bull from Godavari District in Andhra is reported to have scale 2,001 lbs. with the largest known horn 77-3/4 inches in length.

Wild Sheep : (Argali ovis ammon) Probably the largest of their race, standing 3½ to 4 feet at withers.

Wild Goat : (Markhor). Stands about 41" in height. Found in the Himalayan region. These can be said to be the finest wild goat.

Yak : (Poephagus grunnieus) : Found in the Himalayan region, with amazing ability in climbing mountains and resistance against cold weather. Average height is 5 feet 9 inches.

Gaur : (Bovidae, Bibos gaurus) : Indian bison, one of the noblest animals of the Indian forest is apparently the largest of existing bovines. The bulls are as tall as 6 feet 4 inches at withers with a horn 27 inches long.

Black buck : (Antelopa cervicapra lim). This exclusively Indian antelope is perhaps the most beautiful of all its tribe.

Chital : (Axis axis exrl). The spotted deer are the most beautiful of all its tribe. Is found only in India and Ceylon.

Sambur : Largest Indian Deer. Height 5 feet 4 inches at the shoulder.

Nilghai : Largest of India's antelopes are peculiar to this country. This is a somewhat ungainly beast.

Langur : (Hanuman Monkey). Is black faced. Considered to be one of the world's most handsome species.

Painted Bat : With its brilliant vermillion and black wings is probably the most vividly coloured mammal in the world.

King Cobra or Hamadryad is probably the largest venomous snake in the world.

Beautiful flyings quirrels, cunning foxes, wild dogs. porcupies and remarkably coloured Ratles are some of the others found in the jungles of India.

Life in the famous rivers of India has a charm of its own.

Susu or Gangetic dolphin : A remarkable cetaeean, found in Indus, Ganges and Brahmaputra. It never goes into the sea, is eight feet long. blind and most remarkable of all the whale tribes. How it contrived to get into the Indus is *still* a mystery.

Crocodiles, Long snouted garil, Tortoise, and countless varities of fish are the other attractions.

Thus, India's great mountains, her vast dense jungles and her famous life giving *rivers still harbour a bewildering array of* of living creatures, often of rare beauty and all of surpassing interest that this land is a veritable living museum for animal life in this world.

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Chronological development of Genetical thought

by

B. UMANATH RAO, Final B.V.Sc.

GENETICS, the modern science of heredity can be said to have started from 1866 when Gregor Johnn Mendel enunciated its fundamental laws. The word " Genetics " was, however, coined by Bateson in 1906. The term Genetics literally means Gen (Greek root) to become or beginning. Genetics, however, expresses the idea of the full becoming of the individuality of the organism.

The science of Genetics is thus one of the most recent sciences to be developed, but has made rapid and marked progress in the last half a century. Animal Genetics is concerned mainly with breeding animals for increased milk yield, for economical production of animal food, superior wool production, better draughtability and resistance to diseases. The plant Genetics is also concerned with increasing productive capacity and resistance to diseases Fundamental Genetics including Cytogenetics is connected with all the three Animal, Plant and Human genetics. Genetics play a vital role in life of Mankind today. As time marches on and this science progresses, it is bound to play an important and decisive role in human life.

Scientists all over the world are still unable to say definitely how and when life was born into this world So also is the case with the beginning of any science. Living in an age of specialisation Genetics can be said to be a specialised part of Biology.

As long ago, as 1665, Robert Hooke examined a cell which was thought to be the fundamental basis of life. In 1675, Laeuwen Hock and Ham discoverd spermatozoa, the male representative in higher form of life. Von Baer in 1820 discovered the three layers of the ovum, the female representative in fertilisation. It was only in 1875 Hertwig proved that fertlisation consists of the union of male and female pronuclei. In 1833 Schleiden and Schwann propounded the cell theory. Virchow in 1858 made the importart pronouncement "Omnia Cellula e cellula" mening every cell from a previous cell. The Nucleus was described by Robert Brown in 1831. But it was only in 1883 that Gruber by his work on Stenton showed that the nucleus is the most vital part of the protoplasm and is directly concerned with heredity. In 1882, Fleming called "Mitosis" to series of modifications which the nucleus ordinarily undergoes in dividing to form the daughter nuclei. Boveri in 1887—1888 demonstrated for the first time, reduction division or " Meiosis " in Ascaris. In 1888, Waldeyer coined the word Chromosome (Chroma-coloursoma-body) to the rodlike structures in the nucleus, seen clearly during the anaphase in mitosis.

The first recorded artificial hybridisation in plants can be said to be that of Kolneuter in 1760 in Tobacco plants though many others might have done before him In about the same year scientific method of breeding in animals may be said to have been started by Robert Backwell in England on the principle of " Like begets Like ". This principle has its own limitations and is considerd to be a fallacy in modern scientific thought.

The theory of Evolution and the inheritance of acquired characters was enunciated by the eminent French biologist Lamark (1744—1829). His theory dominated biological thought till 1880 when August Weismann (1834—1914) with a remarkably outspoken mind, said and proved that only the germplasm of an

individual is immortal, transmitting its characters from generation to generation and thus disproved the theory of inheritance of acquired characters-

Charles Darwin's theory of "Origin of Species" in 1859 heralded a new era of original thinking and observation. But the world had to wait for Gregar Johnn Mendel an Austrian monk, to base conclusions on experimental observation and data on heredity for the first time in 1866. Mendel can rightly be called the Father of Genetical thought and the year 1866. considered as the birth of science of Genetics. He with the accurate analytical mind of a mathematician, laboriously cultivated and counted hundreds of plants and divided them according to its characters taken one at a time after carefully crossing them After eight years of experimentation, he came to certain conclusions called Mendel's Laws of Heredity. These laws of segregation and independent assortment of factors have stood the test of time for more than eighty years.

The valuable work of Mendel was in the dark till 1900 when Hugo-deVries, Tschermark and Collins independently rediscovered these fundamental laws of genetics and gave life to it. The tragedy of it was that Mendel died unsung and unknown.

In 1901, Hugo-DeVries experimenting with plants gave his theory of Mutation. Mutations are discontinuous variations capable of transmission. Mutation is a change in a gene and not a loss in a gene. Sutton in 1903 showed the inter-relations between the behaviour of the Chromosomes Cytologically and transmission of characters genetically In 1906, Bateson coined the word "Genetics". About the same year Bateson and Punnett reported a case of Linkage. Only in 1912, the modern theory of Linkage was enunciated by Morgan who showed that the genes located on the same chromosome are linked. In 1914, Shull coined the word Heterosis or Hybrid Vigour, Hybrid is the individual that arises from crossing parents which are pure for certain different cheracterestics. Though a Hybrid might have more vigour than its parents, this excessive vigour is not transmissible to its off springs and instead it might deteriorate. In 1927, Mullen and Stadler discovered that Mutations could be induced by radiation as X-Rays. In 1933, Hertz and Bauer discovered the large salivary gland chromosome and Painter's work with giant Chromosomes found in salivary glands of larval Drosophila completed the unification of Cytology and Genetics.

Thomas Hunt Morgan in 1910 published his theory of gene Morgan with his co-workers spent a number of valuable years working on the fly Drosophila, to gain knowledge on the gene, which is the basis for the development of a character and succeeded to a remarkable extent on tracing its whereabouts, and behaviour in the Chromosome

Gene is a complex organic protein molecule, ultramicroscopic in size, self propagating, occupying a specific locus in a group of molecules, arranged in a linear order in a chromosome initating chemical processes and the basis and unit of life. In this atomic age, gene may be called the "Atom of Life" being undivisable.

The cell, the chromosome and the Gene hold the key to problems which have baffled men through all the ages A cell is so minute that ten millions of them could come into a single square inch. A single of these cells has in its all the potentiality of life-of a tree, Lion or man. One can then imagine the size and importance of that minute speck in the cell called the Gene. Each cell comes from one before and the first cell from a precell back to the first living gene and proto

gene. In 1932 Hurst suggested that Gene might be the original living substance. The theory of Gene is still in a transitional stage and thus much can be speculated.

Anyhow, the far reaching importance of these vital units to mankind can hardly be overestimated since the genes are not only the basis of all structural and functional characters but are also the foundation of Human thought and action, in short the whole of the individual "Man".

Nutritional and Clinical Significance of Folic Acid

by

M. R. C. PANNIKKAR, IV B.V.Sc., Class.

As a member of the Vitamin B-complex, folic acid may be considered to equal thiamine, riboflavin and niacin in importance. Although its function as a constituent of this essential group has hitherto been to a large extent observed by its extreme importance in the megaloblastic anaemias other aspects of folic acid metabolism are now assuming prominence, viz., its relation to other pteroylglutamic acids, other vitamins and active principles or liver extract and the effect of administration of the so called folic acid antagonists.

The earliest observations on the haemopoietic effect of what we now know to be the folic acid group of substances appear to have been made in 1931 by Lucy Wills who observed the striking effect of crude liver and yeast extracts in tropical macrocytic anaemia, an effect not obtained with refined liver extracts. He came to the conclusion that those materials must contain an unknown essential substance to which the name Vit.M. was given. This was known later as Folic acid. In 1938 Stockstad and Manning described factor U in yeast and found it to be an essential dietery factor for growth of chicks. One year later, a chick anti-anaemic factor was discovered and named Vit. Bc. It has since been shown to be probably identical with Factor 'U' and to be pteroglutamic acid or Folic Acid.

Folic Acid is now recognised as the chief member of a family of biologically active substance the pteroylglutamates differing in the number of glutamic acid radicals in the side-chain Vitamin M. Its deficiency in monkeys appears to be the experimental analogue of sprue in man.

Biochemists have, for years, been engaged in studying the effects of Folic Acid in animals with special reference to its nutritive function. The study has now been greatly simplified by the development of pure folic acid antagonists.

Toxicity: The pharmacology and toxicology of folic acid were investigated by Harned and his co-workers using the more soluble sodium folate Like the B. complex of Vitamines in general folic, Acid exhibits only a low degree of toxicity and very few harmful reactions have been reported in experimental animals. The toxic effect observed with very high intravenous dosage is dependant on the low solubility of folic acid and resembles that observed with riboflavin which is also sparingly soluble. It consists of deposition of a yellow substance presumbly folic acid in the kidney tubules the deposition of this substance is more marked when the water in take is restricted

Prolonged Administration: In Turkey poults on purified diet containing 25% and 43% of protein one group of investigators found that Folic Acid far from producing neurologic lesions, must be provided in amount of at least 2 O mm. per kilogramme of food in order to prevent cervical paralysis In rabbits and rats given 5 mm. of Folic Acid per kilo gramme intra peritoneally 5 days a week over a period of 7 weeks for rabbits and 10 weeks for the rats no difference was observed between the treated animals and control group in survival, growth, appearance, R.B.C. counts, haemoglobin, total and differential W.B.C. counts and on post-mortem examination,

Roll as a Nutritional Factor: Our knowledge concering the effects and usefulness of Folic Acid is as yet very incomplete. The indispensability of folic Acid

for the nutrition and growth of *Lactobacillus casci* and *streptococcus lactis* may be said to have pointed the way to the discovery of this factor. Our present knowledge indicates that Folic Acid is essential to all forms of batterial life. The organisms which do not require this apparently synthesize it in the body in adequate amounts. This suggests the necessity for considering the possible intestinal synthesise of Folic Acid in nutritional studies in higher animals. There is some evidence that para mino-benzoic acid may be a precuresor of pteroylglutamic acid in bacterial nutrition and that the bacteriostatic effect of the sulphanamides on certain bacteria may be due to an inhibition of the enzyme system responsible for this transformation.

The growth response of plants to Folic Acid is not accurately known. However, the substantial amounts found in many edible plants have been determined and it has been noted that Folic Acid exists in them in a conjugated form presumably requiring an enzyme or enzymes to release it for utilisation in animal metabolism. The Folic Acid content of vegetables roughly parallels the chlorophyll content and it is retained best in foods by immediate refrigeration at 4 to 5°C. Folic Acid content of certain foods can be graded as follows and this in respect of vegetables closely correlates with their chlorophyll content.

Very high: Fresh dark green leafy vegetable and liver.

High: Fresh green vegetables, cauliflower and kidney.

Medium: Beef, veal, drywheat, breakfast cereals.

Low: Root vegetables, light green leafy vegetables, Tomatoes, Cucumbers, Bananas, Pork, Ham, Lamb Cheese, Milk, Dry breakfast cereals made from corn or rice and many canned foods.

Very Low: Cornmeal, rice, Plantain and Sweet Potato.

Deficiency: Syndrome and requirements in experimental animals. Folic Acid deficiency has been observed in insects, parasites and domestic as well as well as laboratory animals as chickens, turkeys, rats, Guinea pigs, dogs and monkeys. It would appear that Folic Acid is essential in these animals for normal haemopoiesis and also to normal growth and good health. Both Vit B 12 and Folic Acid have an effect on tissue growth. Though the requirements of both are not the same both are required for maximum growth. Folic Acid is shown to enhance the growth of certain insects of chicks and rats. Folic Acid is necessary for growth and feathering in chicks Deficiency of Folic Acid in the ration of adult fowls has been observed to cause a decline in egg production with a drop in hatchability too It has also been found that the incidence of perosis in chicks varies inversely with the folic Acid content of the diet. Turkey poults have been observed to develop severe cervical paralysis when folic Acid is eliminated from their diet. In ducklings deprivation of folic Acid caused a decrease in the respiration and pyruvate utilisation of the erythrocytes. Cardiac muscle showed no depression in oxygen consumption but the convertion of pyruvate to lactate was increased and that of pyruvate to non lactate products was decreased by about 20%. Folic Acid depleted rats grew poorly, their hair became grey, lactation and reproduction were impaired and hypocellularity of the bone marrow developed with anaemia and leukopenia and splenic infarcts were found at autopsy.

Reproduction may occur in the presence of partial folic Acid deficiency but the off springs are apt to show deviation from the normal. Addition of folic Acid to synthetic diets increases the milk production of mice. Rats appear to synthesise folic Acid in their intestinal tracts and this activity may be suppressed by sulpha drugs with consequent failure of growth and granulopenias. Dogs are said to synthesise adequate amounts of folic Acid even in the presence of intestinal disinfectants. When nicotinic acid in take is restricted in dogs Folic Acid synthesis is greatly decreased. Experimentally when the intestinal bacteria are inhibited by sulphonamides signs of folic Acid deficiency appear in rats. At autopsy, the bone marrow of these animals exhibits marked cellular depletion particularly of the myeloid elements. It has been found that synthetic folic acid promptly increases the resistance to endogenous infection in Vit. M. deficient monkeys and produces improvement in their anaemia and leukopenia. In the absence of folic Acid foxes on a synthetic diet containing all the other recognised vitamins rapidly develop a syndrome characterised by weight loss. anaemia, anorexia, loss of pigment, matted fur, and occasionally paralysis.

Biological relationship of folic Acid: Folic Acid promotes the utilisation of phenol derivatives such as tyrosine. The blood phenol levels are elevated in pernicious anaemia but fall to normal when this disease is controlled by liver extract Premature infants fed on cow's milk rich in protein but low in ascorbic acid excrete in their urine, large amounts of hydroxy phenyl derivatives (tyrosyl). This indicates a lowered tyrosil metabolism and can be remedied in some cases by the administration of folic Acid.

A close connection between folic Acid and histidine has been demonstrated. Histidine has the power of replacing folic acid as a growth factor and an acid producing factor for *strepto occus lactis*. An antianaphlactic and an antihistaminic activity of Folic Acid has also been reported by workers.

Folic Acid has a profound influence on the metabolism of the bone marrow. Together with Vit. B 12 it enters into the synthesis of haemoglobin. In chicks on a folic Acid deficient diet a single injection of phenyl hydrazine produces a severe anaemia. Liver extracts and Vit. B 12 had no effect on the haemoglobin levels in such chicks but responded to folic Acid.

Folic Acid deprivation of the embryonated hen's egg by one of antagonists has an adverse effect on the haemopoetic system of the chick embryo which is partially reversed by the administration of folic Acid. Pyknosis karyolysis and Karyorrhexis of the cells of the blood island results and the survival time is decreased. It is known that chicks require folic Acid not only for growth but also for maintenance of a normal blood picture.

Folic Acid appears to further utilisation of riboflavin. The faecal excretion of riboflavin in human subjects is markedly decreased by the daily ingestion of 10 mg. of synthetic folic Acid over periods of 25-40 days. Folic Acid is able at least to a significant extent to substitute Vit. C. in the metabolism of hydroxyphenyl derivative and of keto acids. Folic Acid influences the ostrogen metabolism The response of the chick oviduct to Stilboestrol is greatly impaired during folic Acid deficiency. The Folic Acid requirements of the laying hen for normal egg production is in the neighbourhood of 0·25 mg. per kilo of diet and that this requirement is raised to about 0·25 to 1·0 mg. per kilo in diets which do not favour intestinal synthesis of this Vitamin.

The picture of physiological and therapeutic activity of Folic Acid and of its metabolic inter-relationship outlined in the preceding pages is admittedly fragmentry. It may, however, fulfil the authors object of marshalling of known facts and current conjectures on this topic for the benefit of his fellow students.

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Vesical Calculi in a Dog (Male)

T. K. SIVASANKARAN, Final B.V.SC.

An alsatian dog, aged about 6 years, was admitted on 19—3—1955 in Madras Veterinary College Hospital (D. W. I. P. 8012) with the following history :

" Not feeling well but taking cold water frequently since yesterday. Slight bloody discharge oozing from the penis since the same day."

The past history of the animal revealed that there was a similar bloody discharge from the penis about a month back and the owner took no serious notice of it as it disappeared and the dog sufferred no ill-effects subsequently.

Condition of the animal on admission :

The animal looked very ill, was unwilling to move and when made to move, walked with a stiff gait. Mucous membrane was injected and mucoid discharge from the eyes present. He was making frequent attempts at urination without any effect. Abdomen slightly distended.

Temperature	101.8°F
Pulse	100
Respirations	30

Auscultation of the chest revealed no abnormality. Pulse frequent, small and almost imperceptible. On palpating the abdomen, the animal flinched with pain; the distended bladder was easily palpable. On applying pressure over the loins, the animal crouched. Kidneys not palpable. When the penis was exposed a drop of urine uniformly mixed with blood was noticed. There was no growth at the bulb of the penis or on the sheath.

Diagnosis : "Obstruction in the urinary tract" due to calculus.

As the condition of the animal was very weak pending further investigation the following resusciants were administered.

10% sterile Glucose saline 50 c.c. subcutaneously and a similar quantity intravenously.

1 c.c of coramine subcutaneously.

A gum elastic catheter when passed, negotiated the urethra without any difficulty and about 250 c.c. of offensive smelling urine tinged uniformly with blood was removed.

Result of biochemical analysis of urine :

	Physical	*Chemical*	
COLOUR	Brownish Red	ALBUMIN	0·2%
SEDIMENT	Turbid	SUGAR	Absent.
REACTION	Alkaline	ACETONE	do.
SP. GRAVITY	1018	BILE PIGMENTS	do.
MICROSCOPICAL	Nothing unusual	BILE SALTS	do.
		HÆMOGLOBIN	Present.

The region of the bladder was still tender. The animal showed signs of clinical relief on catheterisation. A *plain* radiogram of the urinary tract was taken.

The skiagram showed a cluster of stones of varying size in the bladder.

Operation was postponed as the animal was very weak. The administration of resusciants was continued.

19—3—55 evening and 20—3—55 morning: 5% sterile glucose-saline parentarally and cardiazol 1 c. c. subcutaneously were continued morning and evening. Diet consisted of barley water and milk with glucose (hand fed).

20—3—55 at 3 p.m. Pulse weak and thready and respirations shallow. Animal was recumbent most of the time. It was hand fed.

10 c.c. of 10% calcium gluconate with vitamin K orally with a view to check further loss of blood in urine.

However, the animal died during the early part of the night on the same day.

Autopsy finding:

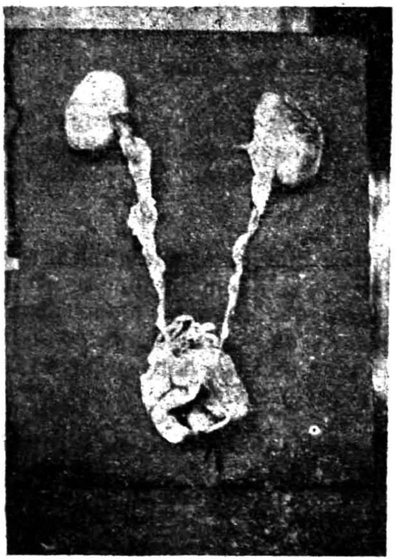
As the owner was not willing, thorough post-mortem examination on the carcase could not be conducted but, on special request, the urinary organs were allowed to be removed from the body. The following were the chief findings :—

(1) On opening the abdomen, a spirocera tumour of about the size of a play-marble was found at the ileo caecal junction. This on section showed two ulcerating tracts which opened into the mucosa and through which reddish, coiled worms (S. lupi) were drawn out. Surprisingly no nodule formation due to this worm could be seen in the oesophagial wall.

(2) There was no obstruction in the urethra.

(3) The prostate gland was enlarged.

(4) The urinary bladder contained multiple stones consisting of one large, yellowish, friable, granular and rough concretion of about the size of a walnut and



Calculus (of walnut size) inside the bladder.

several smaller faceted concretions of about the size of peas. More than one third of the capacity of the bladder was occupied by these stones. The stone on chemical analysis later revealed ammonio-magnesium phosphate.

(5) There was stricture at the neck of the bladder.

(6) The vesical mucosa was hypertrophied and congested with haemorrhagic foci in places.

(7) The ureters were normal.

(8) The left kidney was congested but otherwise normal. The right kidney showed purulent inflammatory changes of the pelvis. No stones could be detected in the pelvis of either kidney.

Discussion: The following points are noteworthy in this case.

(1) Sudden onset with severe abdominal symptoms and an almost collapsing condition of the animal on admission.

(2) The result of chemical analysis tends to point to the conclusion that stones are of vesical origin, the phosphatic calculi being usually associated with such conditions as stricture and enlarged prostate which give rise to retention and an alkaline urine, the formation of the latter being further favoured by ammoniacal decomposition of urine.

(3) Incidentally it is significant to note the unusual location of the spirocera tumour inside the body. The common site of these worms is the oesophageal wall and rare tumours have been recorded in the aortic and stomach wall as well but in this instance the parasitic nodule was located at the ileo caecal junction as referred in the body of the article.

Acknowledgments :

My grateful thanks are due to Dr. M. S. Ganapathy, Professor of Medicine, and Dr M. N. Menon, Professor of Surgery for their valuable guidance in the preparation of this clinical note and also the Principal, Madras Veterinary College, for kindly permitting me to publish the same.

Report of the Clinical Club, 1954-'55

Chairman: V S Gajapathy (Final year)
Secretaries: B. Umanath Rao (Final year)
S. Kamalesan (Third year)
Representatives: Maheswar Mishra (Final year)
S. Mahalingam (Third year)

We started our Clinical Club activities this year with enthusiasm and interest. The following Subjects were discussed during the year.

S. No.	Date.	Subjects.	Speaker.	President.
1.	16—11—54	"Tetanus"	Mr. Maheswar Mishra	V. S. Gajapathy.
2.	24— 2—55	"Skin affections in dogs"	Mr Ram Shanker Patnaik	D. Vasanthakrishna.
3	16— 3—55	"Bovine mastitis	Mr. B. Umanath Rao	S. Veeraraju
4.	28— 3—55	"Canine Distemper"	Mr. Syed Rafiudin	G. Venkatasubba Reddy.

In the last meeting of the clinical club the following resolution was passed unanimously to enable the members of the club and staff to participate in this proceedings of the clinical club meetings and get the full benefit out of it. "This Clinical Club resolves to request the Principal, Madras Veterinary College, to permit the holding of the meetings of this Club within the working hours of the College to facilitate the members of the club and the staff to participate in larger numbers".

We thank the Professors and Assistant Lecturers for their whole-hearted support, encouragement and guidance throughout the year. We thank the Principal for his valuable advice and interest in the Clinical Club.

We hope and trust that this Clinical Club will continue to be the students' forum for scientific discussion and that in the years to come they will evince greater interest in the working of this Club.

Exploratory Laparotomy in a Sow

R. VENKATESAN, B.Sc., Final Year B.V.Sc.

A Yorkshire sow was brought to the College Hospital on the evening of 17—11—1954 by a Military Officer with the history that the sow gave birth to a single piglet two days back and since then it was off feed and continuously lying down The animal was admitted as an in-patient (C.W.I.P. 3243). The observations made and treatment carried out are detailed below :—

17—11—1954 : T 101 0°F

The animal was examined per vagina to note the condition of the cervix and the uterus. The cervix was found practically closed and no piglet felt on palpation.

Took a skiagram of the abdomen and it was inconclusive as the X-ray plant was not a powerful one for this animal.

The animal did not take any food.

Treatment : Gave 8 lacks of Seclopen I/M

18—11—1954 : T 101. 2°F.

Repeated 8 lacs Seclopen I/M
Animal did not take food.

Decided to perform an exploratory laparotomy in the afternoon. Permission of the owner was obtained for performing the operation.

The right flank was shaved and painted acriflavin-alcohol dressing.

Operation was performed under chloroform anaesthesia. 2 ozs of chloroform was administered gradually through Hobday's inhaler.

When the animal was completely under, a linear incision of 4" was made on the skin, then through the muscle layers and peritoneum. Large amount of fat was found in the subcutis and in the intermuscular space. A point, worthy of notice was that there was very little bleeding when incisions were made and it made the work easy. Urinary bladder, distended with urine came into view on entering the abdominal cavity. On manipulation, the animal urinated and urine was pressed out carefully. Next the uterus was palpated through the opening made on the abdominal wall, aided by an assistant grasping the cervix through the vagina. There were no piglets inside the uterus. Before closing the cavity, 8 lacs of Procaine Penicillin was dabbed over the uterus and other organs. Then, the incisions on the peritoneum and muscle layers were closed with continuous sutures using 20 days double stranded Chromic Catgut No. 3. Insufflated the incised wound on the muscle with Penicillin sulphamezathine powder. The skin incision was sutured with sterilised silk. Painted Tr Iodine over this area and applied sticking plaster and put on a pressure bandage.

The animal recovered from anaesthesia late in the evening

Diet : Butter milk and Glucose.

19—11—1954 : T. 101. 6°F.

Animal was dull. Getting up with difficulty. Piglet was found active and taking milk from its mother.

Bowels constipated.

Dressed the wound with Acriflavin-alcohol lotion and penicillin-sulphanilamide powder and protected with a lint bandage after applying a sticking plaster.

Treatment : Gave soap water enema. Repeated 8 lacs Seclopen I/M. Gave glucose in drinking water.

20—11—1954: T. 101. 0°F.

Passed urine. Animal looked bright. Took a little amount of feed.

Removed the bandage. As the sticking plaster was found adhering to the skin and as it was clean, it was left undisturbed.

Treatment: Dressed with a fresh padding of cotton and bandaged. Gave glucose in drinking water. Stripped the teat. Gave 8 lacs Seclopen I/M

21—11—1954; T. 103. °F.

Not urinated. Bowels moved. Looking bright. Showed tendency to take feed. When offered, it took 1/2 madras measure of cooked rice and potatoes.

Sticking plaster was not disturbed. Put a bandage with a fresh pad of cotton.

Treatment: Gave 8 lacs Seclopen I/M Gave glucose in drinking water. Stripped the teat.

22—11—1954: T. 101. 4°F.

Passed urine. Looking bright. Bowels constipated. Showed tendency to eat. Took grass when left loose in the college ground for grazing.

Sticking plaster was left undisturbed. Bandaged with fresh lint and cotton.

23—11—1954: T. 102°F.

Passed urine and bowels moved. Took cooked rice and potatoes.

Removed sticking plaster. Cleaned the wound witd acriflavin alcohol and dressed with sulphanilamide powder. Applied sticking plaster and bandaged.

24—11—1954; T. 101. 8°F.

Passed urine and bowels moved.

Took feed normally.

Removed the plaster and cleaned with acriflavin alcohol, dressed with sulphanilamide powder and bandaged.

25—11—1954: T. 101. 6°F.

Animal was found to be very active. Feeding well normally. Wound-healthy and dry. Piglet was active.

Sutures were removed and dressed with sulphanilamide powder.

Animal was discharged in good condition.

Conclusion: As uniparous condition in Sows is very rare a skiagraphic examination of the uterus for its contents was carried out, and since it was inconclusive, exploratory laparotomy was performed.

The surgical wound healed up very nicely under first intention and the animal made an uneventful recovery.

I thank Dr M N. Menon, Professor of Surgery and Dr. V Umamaheswaran and Dr M. N Dhandapani, Asst Lecturers in Surgery, for their guidance in the preparation of this case report and the Principal, Madras Veterinary College for the permission accorded for the use of data from the case records.

The Madras Veterinary College Association

Office bearers for the year 1954—'55.

Office bearers :

President : Sri Bertie A. D'Souza, G.M.V.C. B.V.SC.,

Vice-President : Sri K. P. Chandrasekharan Nair, G.M.V.C., B.V.SC.,

Students' Chairman : Sri A. Balaguru, B.A.,

Secretary : Sri Tarik-al-Wahayyib

Asst. Secretary : Sri M. Raja Ram

Treasurer : Sri M Krishnaswamy Naidu

Editor : Sri Ram Shankar Patnaik

Sub-Editor : Sri K Tharnath

Class Representatives :

I Year Class . Sri B. George
Sri G. M. Razack

II Year Class . Sri A. Y Krishna
Sri Y. Krishnaswamy Naidu.

III Year Class . Sri P. Rama Rao
Sri B Misra

IV Year Class : Sri M. B. Ramana Reddy
Sri R. Govindarajan

Lady Representative Kumari Thankam Bastin.

It is our privilege and great pleasure to present our activities for the academic year 1954-55. We are glad that we have been able to keep up the high traditions of our Association to the best of our efforts and means. It is noteworthy that the Golden Jubilee celebrations of our Alma Mater took place this year.

Although we cannot boast of a large number of meetings, yet we can look back with pride and satisfaction on certain things we were able to achieve.

Our College took part in the Inter-Collegiate Debates in Tamil, Telugu and English. Our College Union is a member of the Madras City College Students' Council. We took part in the three-days festival conducted by the Council and contributed an item in it. We regularly participated in the Quiz programme conducted by the All-India Radio, Madras. We also took part in the Inter-Collegiate Music competition conducted by the Madras Medical College Hostel and Mr. Ramakrishna of the II Year B.V.SC., was awarded the II prize in 'Light' music.

The Madras Veterinary College Social Service League continued to have an active part in Social Service enterprises. Our College is a member of the World University Service. A Reception Committee was formed from among the members to receive the delegates from other States to the Joint Session of the 12th All India Veterinary Association and 11th Conference of the Madras Veterinary Association.

The year under review also saw the birth of the All-India Veterinary Students' Association. It was a very long-felt need to have one central co-ordinating Veterinary Students' Union organisation. The Secretary of the College Association, Sri W. Tarik represented our College at the Conference held in Bombay and was elected as the President of the All-India Veterinary Students' Association adding one more laurel to our College Union.

We conducted a benefit performance at the Annamalai Hall in aid of the Golden

Jubilee and sale of flags under the auspices of our Association. The reputed artistes —" The Travancore Sisters", Lalitha, Padmini and Ragini, gave the " Dances of India." Sri Bhasker Roy Chowdhry entertained us with his famous dance pieces in a stimulating style. Sri T. J. Nathan spared no pains to make the show a grand success with his masterly music on the harmonica.

The 17th of January 1955 was the Red Letter Day for every one of us. The Golden Jubilee celebrations inclusive of the Exhibition were inaugurated and declared open by Sri J. Nehru, our beloved Prime Minister amidst thundrous cheers from one and all.

The Golden Jubilee week was full of activities for all of us. On our College Day, the 18th January, Dr. Sir A. L. Mudaliar, Vice-Chancellor of Madras University presided and distributed the prizes. A Cattle and Poultry Show also formed part of the Jubilee Celebrations. The Golden Jubilee Exhibition was open to the public from 19th to 22nd January '55.

The following is the detailed account of the meetings held so far :—

23rd July 1954—General Body Meeting to fix the date for election of Office-bearers. Sri Bertie A. D'Souza, the Principal, presided.

5th August 1954—Inaugural address by Dr. S. G. Manavala Ramanujam, M.A., PH. D., D.I.C., F.R.M.S., F.Z.S., The Principal, Sri Bertie A. D'Souza, presided.

15th August 1954 — Independence Day Celebrations—Sri S. K. Chettur, I.C.S., Secretary to the Government, Revenue Department, addressed the students.

20th August 1954—Reception to the New Graduates. Sri N. S. Arunachalam, I.C.S., Secretary to the Government, Agricultural Department, Madras, addressed them.

17th November 1954—General Body meeting to discuss the Golden Jubilee arrangements. presided over by Sri Bertie A. D'Souza.

The United States Information Service showed the following films.

1. Poultry, a billion dollar industry.
2. Poultry raising.
3. Blue Ribbon.

5th October 1954 —Meeting to condole the death of Dr. R. Swaminatha Iyer. Dr. V. R. Rajagopalan, Director of Animal Husbandry, Madras, presided.

5th January 1955—Benefit performance by the Travancore Sisters, Sri Bhasker Roy Choudhary, and Sri T.J. Nathan. Sri V. K. Ramaswamy Mudaliar, the Deputy Leader of the Congress Party in the Assembly, presided.

26th January 1955—Republic Day Celebration- Sri Bertie A. D'Souza addressed.

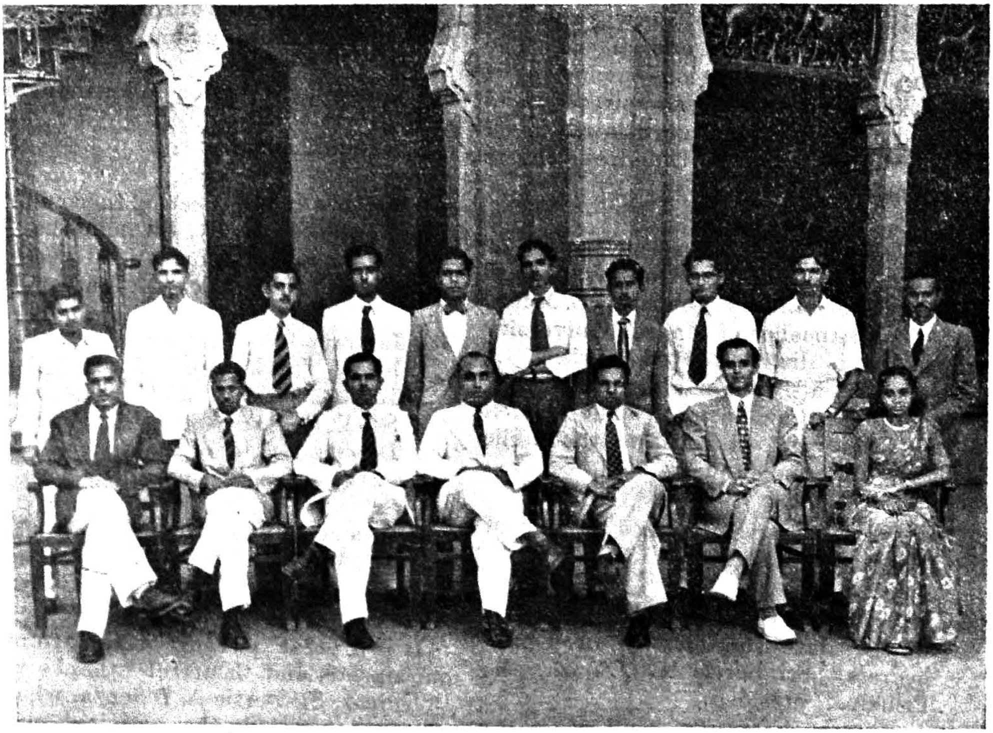
It is a great pleasure for us to record our sincere and heartfelt thanks to our President, Sri Bertie A. D'Souza, who took a keen interest in the activities of the Association and has been a great source of inspiration to all of us. It has been our good fortune to have had him as the President during the last session. To our Vice-President, we offer our sincere thanks for his sustained help. To Dr. M Dharmarajan, we owe a debt of gratitude for his valuable help and guidance, especially during the Golden Jubilee Celebrations. Thanks are given also to our Student Chairman, Sri A. Balaguru and to our

Treasurer, Sri Krishnaswamy Naidu. The Lady Representative on the COmmittee, Kumari Thankam Bastin extended her willing co-operation in the activities of the Association.

We offer our sincere thanks to cne and all of the Association members and the Executive Committee members in particular for their help and co-operation.

We earnestly hope that our Association will progress and prosper in the years to come and we wish our successors the best of luck.

The Madras Veterinry College Association Office-bearers 1954—'55.



Sitting: Ram Shankar Patnaik *(Editor)* A. Balaguru *(Student Chairman)* Dr. K. P. Chandrasekharan Nair *(Vice-President)* Dr. Bertie A. D'souza *(President)* Dr. C. K. Velayudhan Nair *(Adviser)* W. A. Tarik *(Secretary)* Kumari Thankam Bestein *(Lady Representative)*.

Standing: G. M. Abdul Razack (C. R. I) P. Rama Rao (C R. III) Bhagirathi Mishra (C R. III) A. Govindarajan (C. R. IV) M. Rajaram *(Asst. Secretary)* A. T. Krishna (C. R. II) M. V. Ramana Reddy (C. R. IV) K. Tharnath *(Sub-Editor)* T. Krishnaswamy Naidu (C. R. II) M. Krihnaswamy Naidu *(Treasurer)*.

W. A. TARIK.
Secretary.

M. RAJA RAM,
Asst. Secretary.

Report of the Madras Veterinary College

Athletic Association, 1954—'55.

Election of Captains:

The meeting of the Athletic Association to elect the office-bearers was held on 15th July 1954. The Principal, Dr. Bertie A. D'Souza presided. The following Captains and Vice-Captains for various games were elected:

	Captain.	*Vice-Captain.*
1	Cricket—Thimappa Rai	Radhakrishna Reddy
2	Hockey — Madan Singh	Abdul Khavi
3	Football—Joseph Raphael	M. Narayanan
4	Basket ball—K. Krishna Kutty	John Joseph
5	Volley ball—S. Nagarajan	Karkani
6	Tennis—Damaso Paculdo	Rafiuddin
7	Badminton—P O George	
8	Boxing—V. S. Gajapathi,	Ekambaram.

Samuel Dawson was unanimously elected as the General Captain

After a short period, our esteemed Sports Secretary, Dr. I.D. Mantramurti (Professor in Hygiene) left the College on promotion as Deputy Director of Animal Husbandry. We were very sad to lose him for in Dr. I.D. Mantramurti we had a very competent and understanding Sports Secretary. Nevertheless, we wish him all success in his future career.

The departure of Dr I.D. Mantramurti necessitated the nomination of a new Sports Secretary. The Association welcomed the nomination of Dr. F D. Wilson as the new Honorary Sports Secretary for the year 1954-55.

Inter-Collegiate Competitions

This year we entered the League Competitions in all games. We put up a good show in all the games and as usual our Football team did extremely well losing only one match. Special praise are due to our impregnable defenders Samuel Dawson, Nambiar, Krishna Kutty and Raphael, in this connection. In the forward line, M. Narayanan and Ramaraju acquitted themselves very creditably.

Knock-out Tournament:

Both our Football and Hockey teams entered for the knockout tournaments conducted by the M.C.A.A. We lost to Presidency College by 4 goals to 2 in Hockey and to the Madras Christian College by 2 goals in Football. In both these games our teams went down fighting. In Football we were handicapped by the absence of one of our star players.

University Selection: Our boys went for selection in the various games, but were unfortunate not to get in P. Sridharan and Varadarajan both new-comers to the College, narrowly missed selection into the Football and Basket Ball teams respectively. We are confident that with the experience they have gained this year, they are sure to get into the University team next year. In Joseph Raphael we have a potential University athlete in Football, swimming and boxing. At the Cricket trials two of our boys Umanath Rao and T. Rai gave excellent performance. Our College Champion athlete Pitambar Padhi was very unfortunate in spraining his ankle as he missed a very good chance to be in the University Athletic team.

Visitors: The Vellore Medical College athletic team visited our College on 14—8—1954 and played friendly matches

with us in Hockey and Volley Ball. They won both the matches after a hard struggle.

Past and Present Cricket Match: An exciting full day cricket match between the past and present students was played on 20—11—1954. The present students were all out before lunch for 71 runs. The past students went into bat after lunch and were skittled out one by one for a small total. Only Dr. I. M. Rodericks gave some opposition to the bowling and remained unbeaten with 12 runs. Dr. Rai the star batsman of the past students' side was unfortunate to go out for a very hard catch.

Boxing: This year again we were fortunate to have the services of Mr. C. D. Masilamony, Ex-University Boxing Coach and a noted South Indian Boxer to train our boys At the Inter-Collegiate Boxing our boxers fared very well. Md. Ghousullah of the I year won the finals in his weight class and V. S Gajapathi had the consolation of winning his first round bout. Raja, of the Paper weight class, showed good promise

General: In the Inter-Collegiate Athletic meet, this College was able to win 2 points.

As the Inter-Collegiate League competitions begin very early in the first term there was not much opportunity to coach our teams in the various games. Apart from this, our playground is not up to the standard In rainy weather it is always waterlogged and also the grass grows too high to play any game Unless some constructive scheme is brought about to raise the level of our playfield and to cut the grass periodically, I am afraid our boys will never improve.

F. D. Wilson,
Sports Secretary.

BASKET BALL.

Our performance this year is not so good as expected. However, our team played in the Inter-Collegiate League Matches with excellent team work and sportsmanship. Varadarajan, who joined us this year, never missed a single chance and was the player of the season. In all the matches except one, he was the top scorer. His understanding with John Joseph was a menace to the opposite side defence and few balls missed their accurate aim which was evidently seen in our tough match against Stanley. Dawson, our untiring centre-forward played excellently well.

I should thank Dr. F. D. Wilson, Sports Secretary and A. N. Lamech, our energetic Physical Director for all the encouragement they have given us.

K. Kutty,
Captain.

BADMINTON.

I am the most unfortunate Captain since I have nothing to place on record about the activities of our team this year. If some more encouragement is to be shown, I am sure we can revive our past glory. May I hope that at least my successor can do it.

P. O. George,
Captain.

VOLLEY BALL.

Our performance this year in the Inter-Collegiate Tourney is really creditable. We started with a fine victory over Theagaraja and finished with another win over Teachers' College. We also beat Presidency and Jain. It is worth mentioning that we gave tough fights to other colleges as well. We won all but one against Stanley, to whom we lost very narrowly.

This year's team is strengthened by the two newcomers, Santhanam and Balu. As usual, Periannan was outstanding with his powerful smashes and fine placings.

I heartily thank the Vice-Captain for his kind co-operation and wish my successor all success.

S. Nagarajan,
Captain.

HOCKEY.

We started the season with a creditable win over the College of Indian Medicine in the Inter-Collegiate League tournaments conducted by the M.C.A.A. We won by four goals to nil, Vasanthakrishnan, Kavi and Venkataraman playing a great game. Next we met Arts and Loyola and lost to both. We lost miserably to Arts, but put up a grand performance against Loyola. We deserved a big defeat at the hands of Arts College as there was no constructive passing among our players. We showed great improvement in our match against Loyola but lost by 3 goals. Our Ex-University Goal-Keeper was off-colour that day otherwise the margin would have been smaller. In this match the hero of the day was Kushalappa our nippy and over energetic half-back. He was ably supported by Umanath Rao and Madan Singh, the full-backs who knocked shines out of the ball by their full-blooded clearances. We ended the season with another creditable performance against the Madras Medical College. The Medicos opened the account in the first few minutes of play, but this did not bother us and we rallied to get a lead of 3-2. The Medicos pressed very hard and in the closing stages of the game, they were lucky to get the equaliser. It was at this match that we really played constructive Hockey and all players deserve praise for it. Special honours going to Kavi. Amba Prasad, Vasanthakrishnan, Krishnamurthy and I. Singh in the forward line and Kushalappa, Madan Singh, U. Rao and John in the defence.

In the knock-out tournament, we lost to the Presidency College by 4 goals to 2 after a hard struggle.

In conclusion, I must say we have excellent talent in our team, but have not had any proper practice as our field is really unfit for play. I must thank the Sports Secretary and the Physical Director for the keen interest they have taken in us.

Madan Singh,
Captain.

BOXING.

The Boxing team of the Madras Veterinary College entered the boxing tournament for the Lalitha Shastry Shield this year. A team of 5 comprising Md. Ghousulla, Joseph Raphael, Kamalesan, Ebenezar Raja and Gajapathi, entered the competition.

Md. Ghousulla of I year, an old timer, is a promising boxer and it is no wonder he won his weight class in the finals. The others did their best, but lost to better opponents.

The Inter-mural Boxing tournament for Dr. Khan's shield was very keenly contested with many entrants from each class. The shield was won by the IInd Year Class, while IVth Year Class came a close second.

I thank the Physical Director and Sports Secretary for their help and guidance with all the good luck to my successor.

V. S. Gajapathi,
Captain.

FOOT BALL.

We started the season with very little practice. Our team has been reinforced by Sridaran and Ramaraju of the First year. Ramaraju, a nippy forward, was responsible for many worthy goals scored. The new finds, Prabhakaran, Kandaswamy and Krishnaswamy Naidu justified their inclusion by their energetic and brilliant display.

We fielded a strong team and lost only one tournament. The match against Loyola was the most noteworthy one where all our players showed perfect harmony and co-ordination.

As usual the defence was our strong-point. Dawson and Nambiar at the back line spared nothing to put up a good show, worthy of a "*Dien Bien Phu*"

We are sorry to lose the good services of Nambiar and Narayanan next year and we wish them best of luck.

I take this opportunity to thank all the members of the team for their ready co-operation and everlasting enthusiasm and keeping up the "*Espirit de Corps*". Last but not the least, I thank on behalf of our team the Sports Secretary, the Physical Director and Dr. Sanjeeva Rao for their timely help and encouragement.

With a little more practice and work, I am sure my successor will be able to put up a good team next year.

Joseph Raphael.
Captain.

GAMES AND SPORTS
(1954-55)

It is indeed a very delicate task to write about one's team. You can afford neither to be 'expensive' nor 'frugal'. Yet you have to make both ends meet.

Our teams received reinforcement from the I year class. Though they joined late, they were quick to adopt themselves and many a time they helped us to victory. I am proud to record that our Foot-Ball team fared quite well in the Inter Collegiate League having lost only one match. We are rather unfortunate in losing to Meston, for it lost us the privilege of contesting the Zone finals We also fared quite well in Hockey and Basket Ball.

All the Inter-class matches have started and there is a keen contest among all the classes to win Dr. K. S. Nair's cup for the Games Championship. The III Years by winning the Tennis and Volley Ball tournament are leading with the Second Years a close second.

This year our Foot-Ball, Basket Ball and Cricket players were sent up for the 'Varsity trials but were rather unlucky. A number of our players are playing in the City League Competitions in Foot-Ball and Cricket.

We entered for the Inter-Collegiate Boxing and put up a good show. One of of our boxers, Md. Ghousallah went to win the finals in his weight and thus acquired the honour to represent the Madras 'Varsity in the Inter 'Varsity Boxing Tournament. Our boxing team has made great strides and our thanks are due to the Principal and Sports Secretary for having engaged Mr. C. D. Masilamani, a well known boxer as our coach.

Our College Sports is to be held somewhere in January 1955 and as it coincides with our Golden Jubilee Celebration, I am sure it will be celebrated in a grand style. I am sure there is going to be a keen contest to win the Dr. Mantramurti's Champion Cup for the individual championship. I wish all the competitors the best of luck.

We feel the loss of our Ex-Principal the late Dr. I M. Azizuddin, who was of great help and encouragement to our Association. We are greatly indebted to our new Principal, Dr. Bertie A. D'Souza, for giving all the facilities and also taking a keen interest in all the games. I sincerely hope that during his Principalship he will take a keener interest in seeing that our playing ground is improved; only then, will our standard of sports be outstanding My thanks are also due to our Ex-Sports Secretary. Dr. I. D Mantramurti, who was

always a great inspiration and help to us in all our sports activities. We wish him all the best in his new appointment. Our new Sports Secretary, Dr. F.D. Wilson spared no pains to see that our teams were up-to the mark. We thank him for the interest and help rendered. In our new, young and energetic Physical Director, Mr. A. N. Lamech, we have much hope. We thank him for the keen interest and enthusiasm taken by him both on and off the field.

Last but not least, I must thank all the Captains and players of the various teams for their ready help and co-operation in making my duty easy.

Wishing my successor all the best,

S. Dawson,
General Captain.

CRICKET.

The marked improvement of the Cricket team this year gives us full satisfaction. Our performance in Inter-Collegiate tournament in almost all the matches we played this year was splendid.

We played the first Inter-Collegiate match with the College of Indigenous Medicine. They were lucky enough to defeat us by three wickets. Our bowling and fielding performances were appreciated by all the Colleges whom we met. If we had sufficient practice especially in batting we would have won against most of the City colleges. Even in spite of our repeated requests the College authorities could not provide a cricket practice net That might be the reason for our poor batting performance. In spite of all these troubles we were able to finish all the fixed matches of the Inter-Collegiate tournament unlike in other games. Our easy victory over M.I.T. is really appreciable. Pachiappas the best Cricket team of the City Colleges had a tough time with us when we played the last match this year in their ground. The Stanley Medicals were lucky to win by three wickets. Our maximum runs of the year in one innings are 122 with Arts College, when we played on their ground

Mr. Umanath, the University bat, Mr. Abdul Kavi, the steady bat, Mr. Ramamurthy, the opening bat, and the Captain himself are noted as the top scorers in one or of the other matches. Mr. Radhakrishna Reddy, the opening bowler who bagged 25 wickets in 8 matches is mainly responsible for our victory as well as our grand performance in all the Colleges. The team this year has not been so much strengthened by the addition of any first years But they can improve in course of time.

I take this opportunity to thank our Physical Director, Mr. A. N Lamech and the Sports Secretary, Dr Wilson for their help rendered in various ways. I particularly thank Mr. Umanath Rao of Final year for his valuable instructions during course of play. My thanks are due to Md. Radhakrishna Reddy, the Vice-Captain and all the players for their kind co-operation throughout the year.

I wish the best of luck to my successor.

M. Thimmappa Rai,
Captain.

Students' Social Services League

The Veterinary College Students' Social Service League which is affiliated to the Madras Students' Social Service League—the central body of the City Students' Association, has been doing useful work for the last four years. This year also we are proud to report the "Good Samaritan" work it has continued with sustained interest and unabated zeal.

We co-operated with the Madras Students' Adult Education Council and concentrated efforts were made in the slum areas very near the College lying in the Naval Hospital Road. Members took pains to impart instructions in the "Three R" to the children besides laying stress on personal hygiene and cleanliness. A night school was also conducted in the same area for adults.

Our League members celebrated the Republic Day by arranging a small meeting and distributing sweets to the tiny tots. On another occasion, food packets received from the "Guild of Service" were distributed to nearly 300 persons.

Our activities extended even as far as Mylapore where our volunteers under the guidance of Messrs M. Rajaram and T. V. Hanumantha Rao helped in conducting the "Labour Night School". Apart from tuition being given in 5 different languages, viz., English Tamil, Telugu, Malayalam, Hindi and Kannada, care was taken to see that there was healthy diversion for the young students by engaging them in different sports such as *Chadu Gudu*, Basket Ball, Ring Tennis etc. A benefit show was arranged at the Paragon Talkies when the film "Desert Fox" was screened. A fairly good collection was realised and it augmented the above said school funds. The success of this venture was in a large measure due to the enthusiasm and willing co-operation of our volunteers.

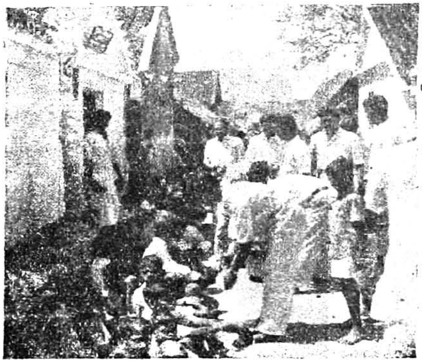
Two delegates from this College, Messrs M. Rajaram and Tarik Al Wahib were deputed to attend the Vth Conference of the Madras Students' Social Service League and also Madras Students' Adult Education Council deliberations.

It is our pleasant duty to thank all the members—the Social workers, who never crave for any bouquets—for their keen interest and enthusiastic activities in this highly laudable purpose. In this great experiment of building a new and better "Bharat", we are proud to have contributed our own little mite and it is our fervent hope and desire that in the years to come this League will grow from strength to strength.

M. Rajaram,
Secretary.
Students' Social Service League,
Madras Veterinary College.

Students' Social Service League

Members distributing " Multipurpose food " through the Courtesy of Guild of Service.



All India Veterinary Students' Association, Madras

A new chapter was written in the life of Veterinary College Unions in India, when the All-India Veterinary Students' Association was brought into existence. It had been a long-felt need and it was left to the Bombay Veterinary College Union to take the initiative. On 22nd December 1954, seven representatives of seven Veterinary Colleges out of nine assembled in the spacious hall of Bombay Veterinary College to form this new Association. The birth of this Association was enthusiastically welcomed by Veterinary students all over the country. Messages wishing the Association a bright future were received from various institutions and members of the public as well as Government Veterinary Departments.

The Association is a central co-ordinating organisation of the Students' Unions of the different Veterinary Colleges. It is a non-sectarian, non-political and a non-communal organisation devoted to the welfare of the Veterinary Students in our country. The main aim of the Association is to bring together students from various colleges so that they can understand each other well. Annual Conferences will be held at different centres and it will be the privilege of the Madras Veterinary College to hold the Second Annual meeting in the coming year 1955-56. It has been decided to publish a magazine every year and an Editor and Associate Editors have been entrusted with this job.

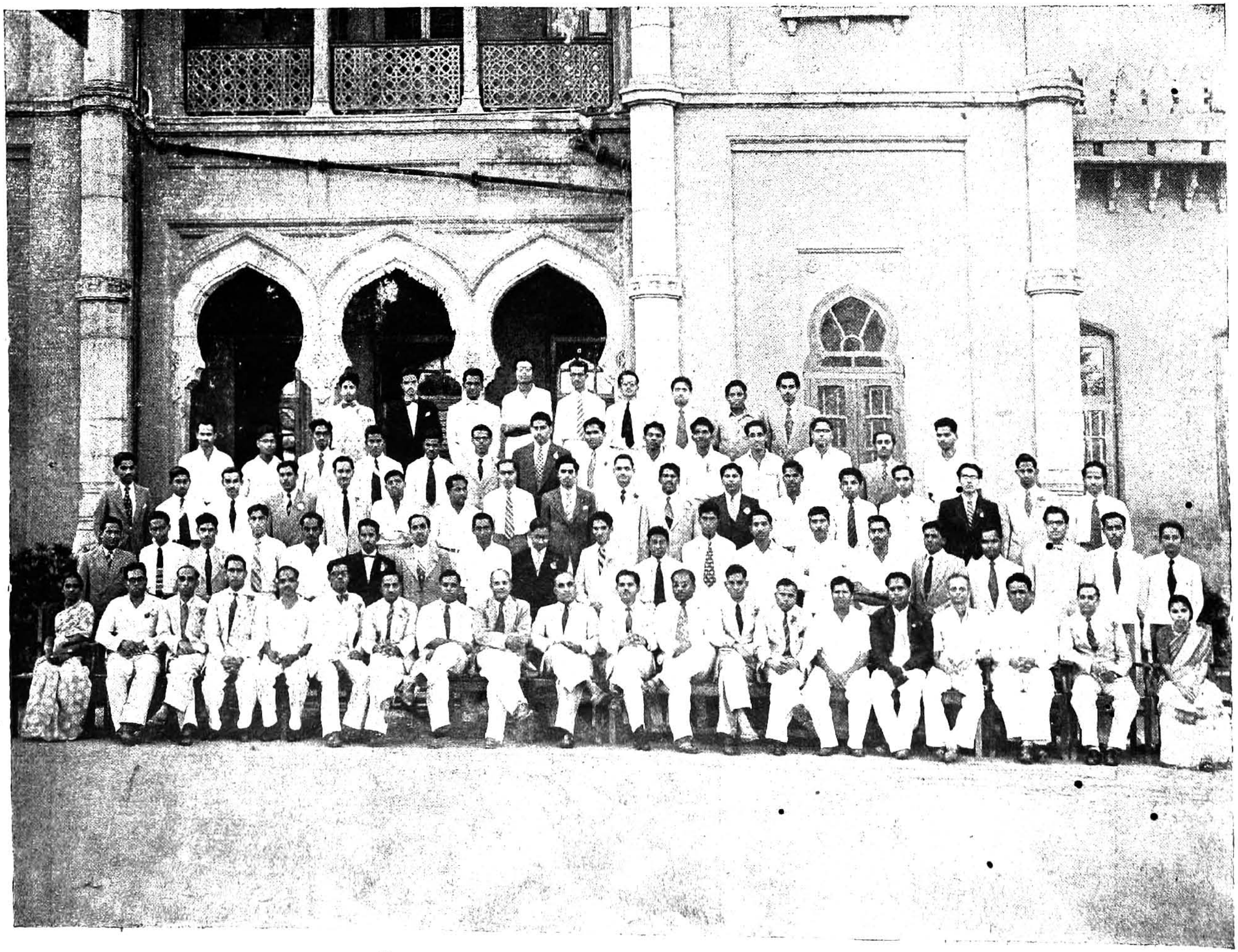
Being an infant one, the Association may have many drawbacks but with the co-operation and advice of the students and the staff of various Veterinary Colleges, I hope, wish, and pray it will blossom into a full-fledged organisation in a not-too-distant future.

It is gratifying to note that the Principals of the various Veterinary Colleges readily consented to send delegates for the conference and extended all possible help. The Principal, Staff and students of the Bombay Veterinary College should be congratulated for the efficient manner in which they arranged the conference and for the hospitality extended to the visiting delegates who were overwhelmed with kindness and courtesy.

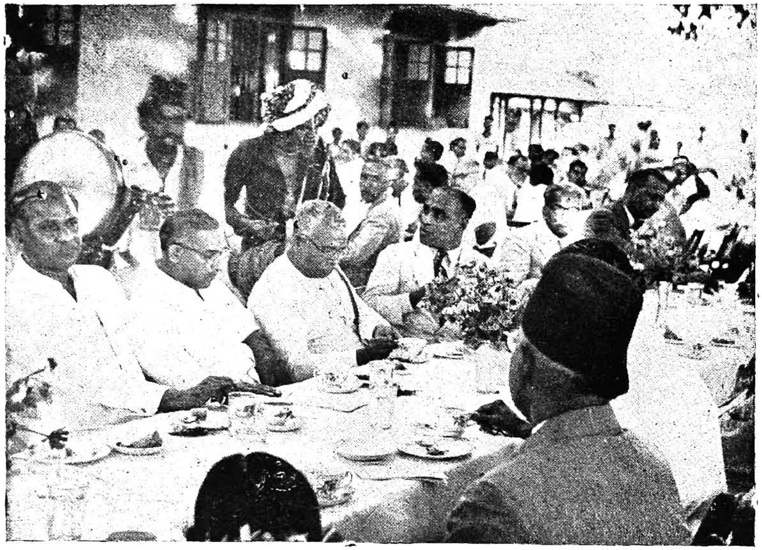
It augurs well for the future that so many young men are taking lively interest, and if enthusiasm is any criterion of a growing organisation, then we certainly have a bright future.

It is the birthright of every student of Veterinary Science to safeguard and promote the interests of the student population in the country, and I should therefore, appeal to everyone concerned to enrol himself or herself as a member of this Association at once.

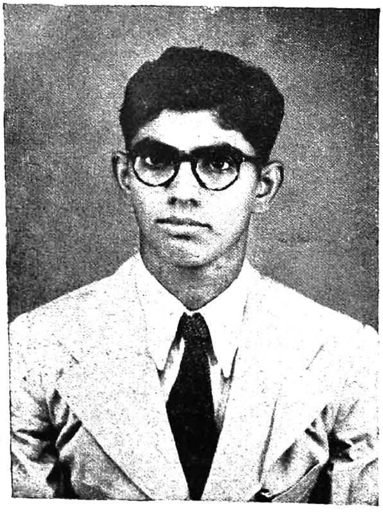
W. A. TARIK,
President,
All India Veterinary Students' Association
and Secretary, Madras Veterinary College
Association.



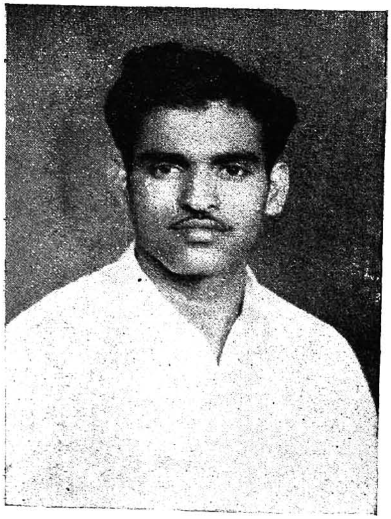
Out-going Graduates of the College — 1955



Hostel day Celebration—Guests at Tea
—*C. Ramaswamy*, Final Year B.V.SC.



J. Seshadri
Panikkar memorial medalist Aug. '54



G. P. Chinnaiya
Athletic Champion 1954–'55.

Minutes of the First General Body Meeting of the All India Veterinary Students' Association.

The First General Body Meeting of the All India Veterinary Students' Association (A.I.V.S.A.) was held in the Amphitheatre of the Bombay Veterinary College on 22—12—1954 at 3 p.m. It was attended by all the staff and students of the Bombay Veterinary College, 50 students from Bihar Veterinary College and 7 representatives of 7 Veterinary Colleges of India except Hissar and Mathura. The quorum was 291.

The Agenda was as below :—

1. Introduction of A.I.V.S.A., by the President Elect, Sri W. Tarik.

2. Inaugural address by Dr. F. S. Khambata, Principal, Bombay Veterinary College.

3. Presidential address by Dr. S. R. Chaddha, Director of Veterinary Services, Bombay State.

4. Thanksgiving by the General Secretary of A.I.V.S.A., Sri D.D. Heraiyal.

Introducing the A.I.V.S.A., the President of the A.I.V.S A., Sri W. Tarik called on all Veterinary Students of India to join hands in a spirit of comradeship for the first time in the history of Veterinary students. He said " It is indeed a great awakening, a sign of great march and a bold step for the prosperity of Veterinary Education that we have come together on this historic day. The idea was mainly to foster unity among ourselves and then to head towards the uniformity of Veterinary Education in India" He earnestly requested the gathering of the representatives of the Indian Veterinary Colleges to stand by the A.I.V.S.A. under all circumstances to bring up the new-born child of A.I.V.S.A.

While inaugurating the A.I.V.S.A., Dr. F. S. Khambata, B, Ag., G.B.V.C., M.Sc. PH. D., Principal, Bombay Veterinary College, offered a hearty welcome to all the delegates of the Indian Veterinary Colleges and said that the coming into being of such an organised body of students in itself is a heartening feature and spoke volumes of enthusiasm and awakening amongst the students. He advised the students to canalise this great and strong force and immense store of youthful vigour for constructive causes and thus render great service to the Veterinary profession and the country. He enjoined on the gathering to build this newly born Association as a model for other students' Associations. He inspired the students by saying "Let the torch which you are lighting today be held aloft so that it may light your path towards unity, service and enlightment".

Presiding over the gathering, Dr. C. R. Chaddha, B. Sc. M.R.C.V.S. Director of Veterinary Services, Bombay State, expressed his feeling of happiness at the students, hitherto remaining aloof and with no co-ordination, coming together spontaneously with a feeling of national brotherhood. He congratulated the organisers of the Association and advised the students to beware of unwholesome political forces in the country and keep away from selfish desires.

Sri D D. Heraiyal, the General Secretary of the A I.V.S.A. gave a brief review of the deliberations of the meetings of the All-India Veterinary College representatives which were held 3 times on 21st

December 1954 for the discussion of drafting the A.I.V.S.A. constitution. He then announced the names of the Office-bearers of the A.I.V.S.A., who were elected in the previous meetings.

President : Sri W. Tarik (Madras),

Vice-President : Sri Asit Lahiri (Bengal)

General Secretary: Sri D. D. Heraiyal (Bombay)

Asst. Gen. Secretary : Sri K. R. Kadagalli (Bombay)

Secretary for Propaganda & Publicity : Sri Suryakumar Sahai (Bihar)

Editor of the A.I.V.A. Journal : Sri Ratnakar Benjamin (Hyderabad)

Auditors ; 1. Sri G. P. Supekar (Madhya Pradesh)

2. Sri Buragohain (Assam).

He read out the constitution of the A.I.V.S.A., framed by the All-India Veterinary College Representatives and it was passed by the General Body. He also placed before the meeting the seven resolutions and they were duly passed.

The meeting was dissolved thereafter.

(Communicated by Sri W. Tarik
President, A I.V.S.A.)